

TC-K6 K6B

TC-K6 (Panel: Silver)

AEP Model

E Model

US Model

Canadian Model

TC-K6B (Panel: Black)

AEP Model



TC-K6 (AEP, E model)

STEREO CASSETTE DECK

SPECIFICATIONS

GENERAL

Power Requirements: 120V ac, 60 Hz (US, Canadian model)
110, 120, 220, 240V ac, 50/60 Hz
(AEP, E model)

Power Consumption: 17W ac (US, Canadian model)
19W ac (AEP, E model)

Dimensions: (US, Canadian model)
Approx. 460 (w) x 170 (h) x 310 (d) mm
18 1/8 (w) x 6 3/4 (h) x 12 1/4 (d) inches
(AEP, E model)
Approx. 430 (w) x 170 (h) x 310 (d) mm
17 (w) x 6 3/4 (h) x 12 1/4 (d) inches
including projecting parts and controls

Weight: 9.5 kg, 20 lb 15 oz (US, Canadian model)
8.5 kg, 18 lb 12 oz (AEP, E model)

Frequency Response: DOLBY NR OFF

With Ferri-Chrome cassette
20–18,000 Hz (NAB)
30–16,000 Hz ± 3 dB (NAB)
30–16,000 Hz (DIN)
With chromium dioxide cassette
20–17,000 Hz (NAB)
30–15,000 Hz ± 3 dB (NAB)
30–15,000 Hz (DIN)
With standard cassette
20–15,000 Hz (NAB)
30–15,000 Hz (DIN)

Wow and Flutter: 0.05% WRMS (NAB)
 $\pm 0.14\%$ (DIN)

SN Ratio: DOLBY NR OFF

With Ferri-Chrome cassette
59 dB at peak level (NAB)
57 dB (DIN, 1975 rev.)
With chromium dioxide cassette
55 dB at peak level (NAB)
DOLBY NR ON
Improved by 5 dB at 1 kHz,
10 dB above 5 kHz


TAPE RECORDER SECTION

Track: 4-track 2-channel stereo

Fast Forward
Rewind Time: Approx. 90 seconds with Sony cassette C-60

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND  MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

— Continued on page 2 —

SONY

SERVICE MANUAL

TC-K6/K6B

Total Harmonic Distortion: 1.3%

Record Bias Frequency: 105 kHz

Inputs: MIC (phone jacks) 2
 sensitivity 0.25 mV (-70 dB)
 for a low-impedance microphone

 LINE IN (phono jacks) 2
 sensitivity 77.5 mV (-20 dB)
 input impedance 100 k Ω

Outputs: VARIABLE LINE OUTPUT
 (phono jacks) 2
 output level 0.775 V (0 dB)
 at load impedance 100 k Ω
 with LINE OUT level control at "10"
 suitable load impedance more than
 10 k Ω

 FIXED LINE OUTPUT (phono jacks) . 2
 output level 0.435 V (-5 dB)
 at load impedance 100 k Ω
 suitable load impedance more than
 10 k Ω

 HEADPHONES 1
 output level -20 to -50 dB
 at load impedance 8 Ω

REC/PB Jack (DIN): Input impedance less than 10 k Ω
 Output impedance less than 10 k Ω

0 dB = 0.775 V

MODEL IDENTIFICATIONS

Specification Label

TC-K6: US, Canadian model

SONY®		
TAPECORDER TC-K6		
AC 120V	60Hz	17W
NO. 		
MADE IN JAPAN		

TC-K6: AEP, E model

SONY®		
TAPECORDER TC-K6		
110 120 220 240V	~ 50/60Hz	19W
NO. 		
MADE IN JAPAN		

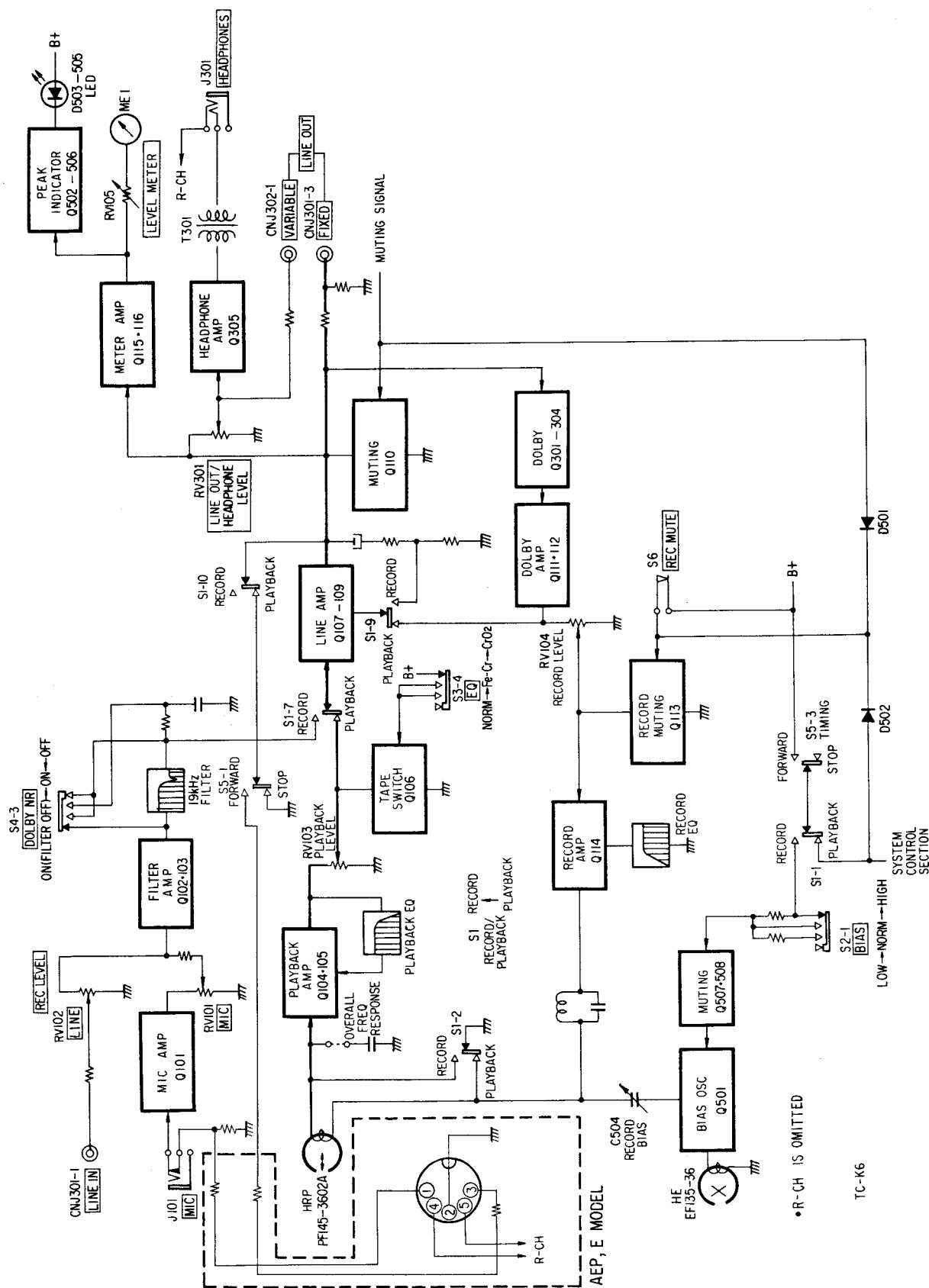
TC-K6B: AEP model

SONY®		
TAPECORDER TC-K6B		
110 120 220 240V	~ 50/60Hz	19W
NO. 		
MADE IN JAPAN		

The schematic diagram illustrates the control system for a tape deck, featuring various components and their interconnections:

- Inputs and Controls:**
 - S11 SHUT-OFF (ON: AT SHUT-OFF OPERATION):** A switch connected to B+(2).
 - S12 REWIND (ON: REWIND MODE):** A switch connected to B+(2).
 - S13 MEMORY ON/OFF:** A switch connected to B+(2).
 - S14 TAPE COUNTER (ON: AT 999 INDICATION IN REWIND MODE):** A switch connected to B+(2).
 - S5 TIMING:** A switch connected to B+(5).
 - S1 RECORD/PLAYBACK:** A switch connected to B+(2).
 - S2 STOP:** A switch connected to B+(2).
 - S3 FORWARD:** A switch connected to B+(2).
 - S4 REWIND:** A switch connected to B+(2).
 - S8 and S9:** Additional switches in the control circuit.
- Power Supply and Regulation:**
 - B+(1), B+(2), B+(3), B+(4), B+(5):** Main power supply lines.
 - REG 0618-619:** A voltage regulator connected to B+(1) and B+(2).
 - REG 0620-621:** Another voltage regulator connected to B+(1) and B+(2).
 - AC IN:** The main AC power input.
- Control Logic and Drivers:**
 - SOLENOID DRIVE 0601:** Connected to B+(2) and B+(4).
 - SOLENOID DRIVE 0602-603:** Connected to B+(2) and B+(4).
 - SOLENOID DRIVE 0604:** Connected to B+(2) and B+(4).
 - SOLENOID DRIVE 0605-607:** Connected to B+(2) and B+(4).
 - SOLENOID DRIVE 0616-617:** Connected to B+(2) and B+(4).
 - FLIP-FLOP 0614-615:** A logic component connected to B+(2) and B+(4).
 - SWITCHING 0608, 0609, 0611, 0612, 0613:** Various switching components in the control circuit.
 - MUTING 0610:** A muting component connected to B+(2) and B+(4).
 - SERVO AMP IC 1001 Q1001:** A servo amplifier connected to B+(2) and B+(4).
- Outputs and Motors:**
 - PM1 FUNCTION:** A pulse generator connected to B+(2) and B+(4).
 - PM2 PAUSE:** A pulse generator connected to B+(2) and B+(4).
 - M1:** A motor connected to the servo amp.
 - M2 FUNCTION:** A pulse generator connected to B+(2) and B+(4).
- Other Components:**
 - US, CANADIAN MODEL:** A label indicating the model variant.
 - LAEP, E MODEL:** A label indicating another model variant.
 - TC-K6:** A component label at the bottom right.

1-2. AMP SECTION



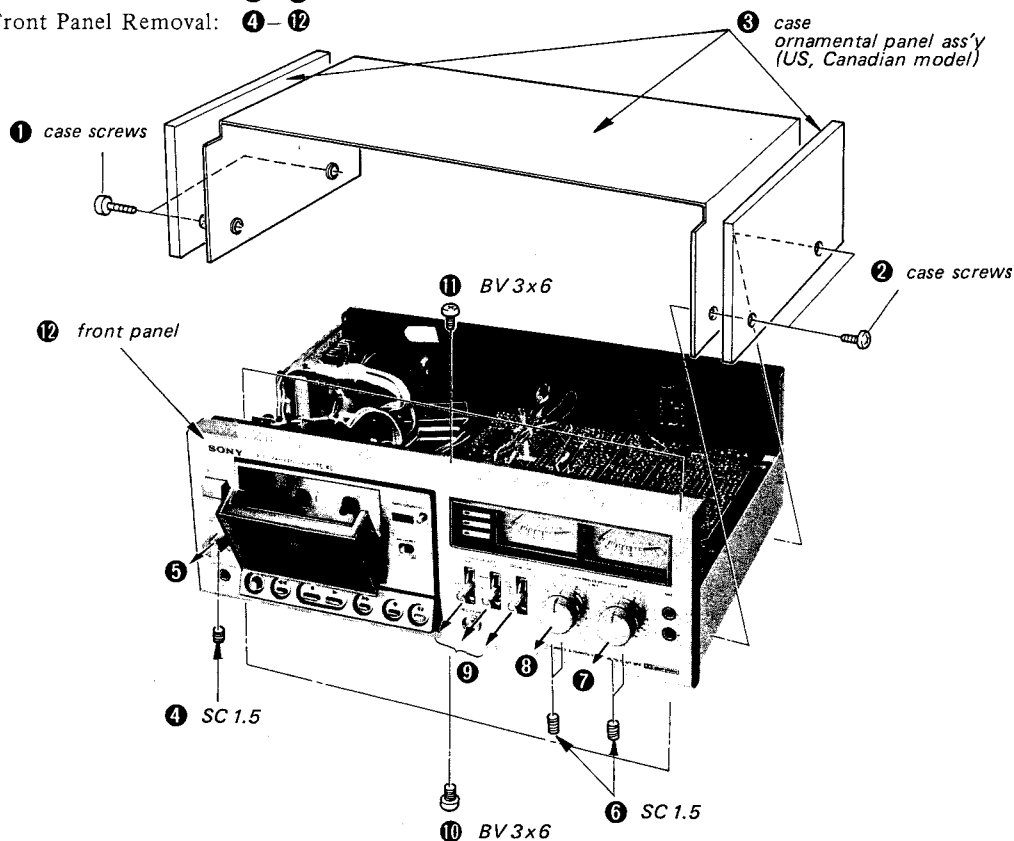
SECTION 2 DISASSEMBLY

Note: Remove the parts in the numerical order.

CASE AND FRONT PANEL REMOVAL

Case Removal: ①-③

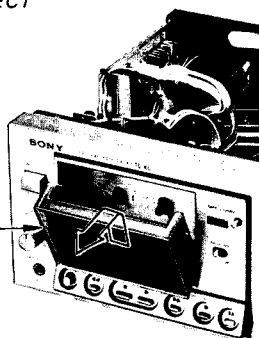
Front Panel Removal: ④-⑫



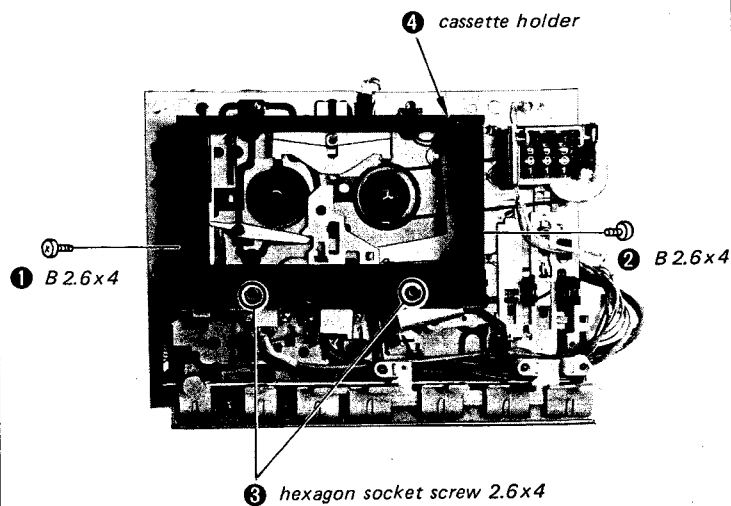
CASSETTE WINDOW REMOVAL

① Push the EJECT button.

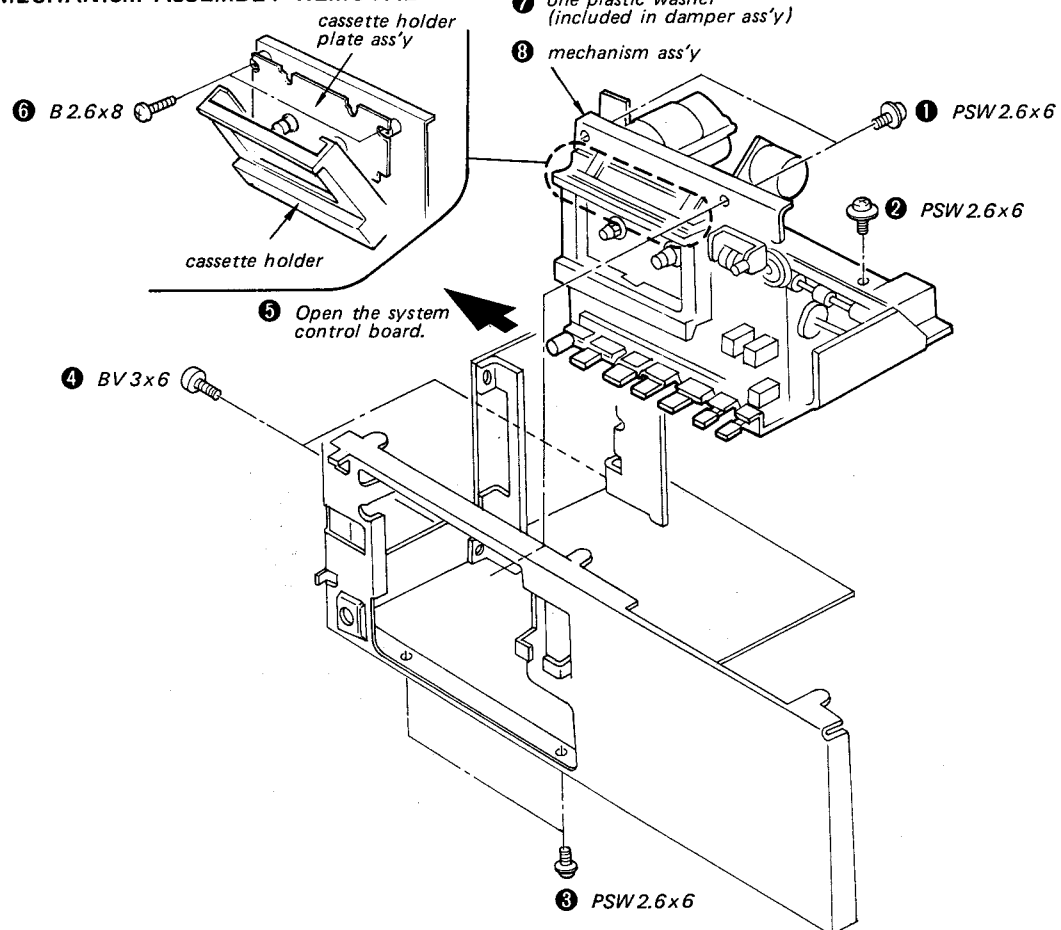
② cassette window



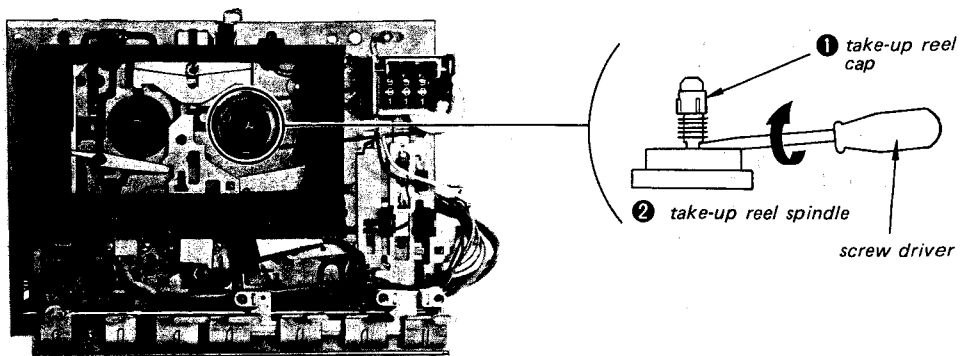
CASSETTE HOLDER REMOVAL



MECHANISM ASSEMBLY REMOVAL

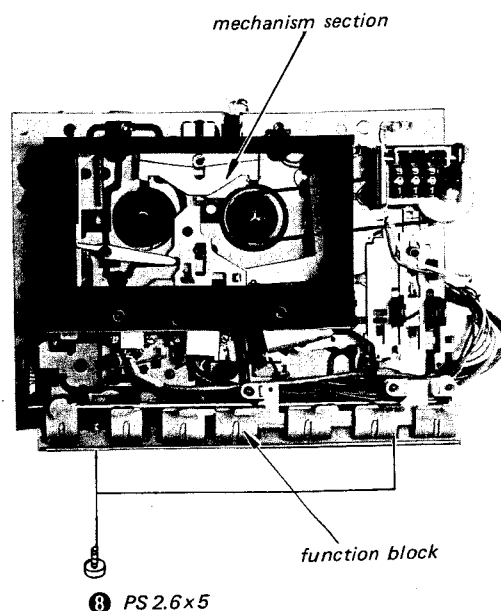
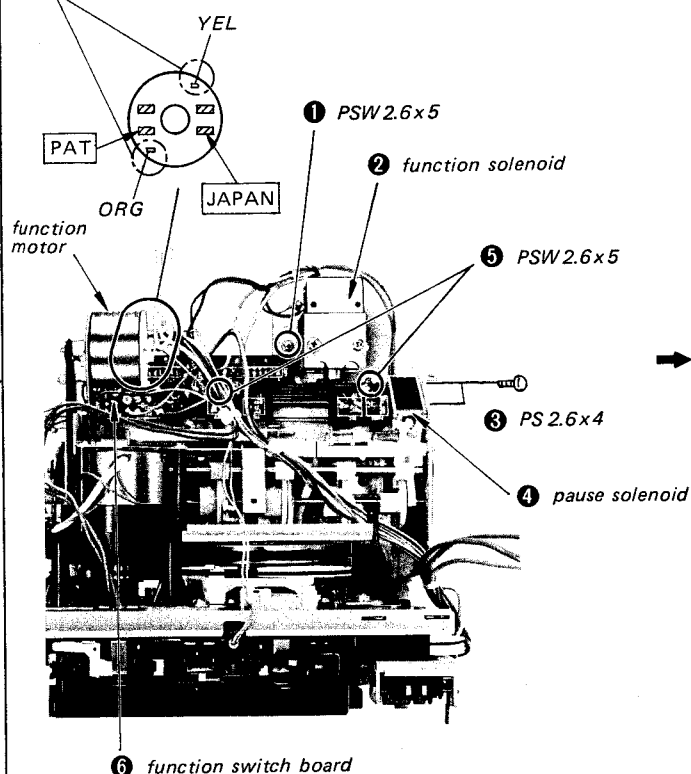


TAKE-UP REEL SPINDLE REMOVAL



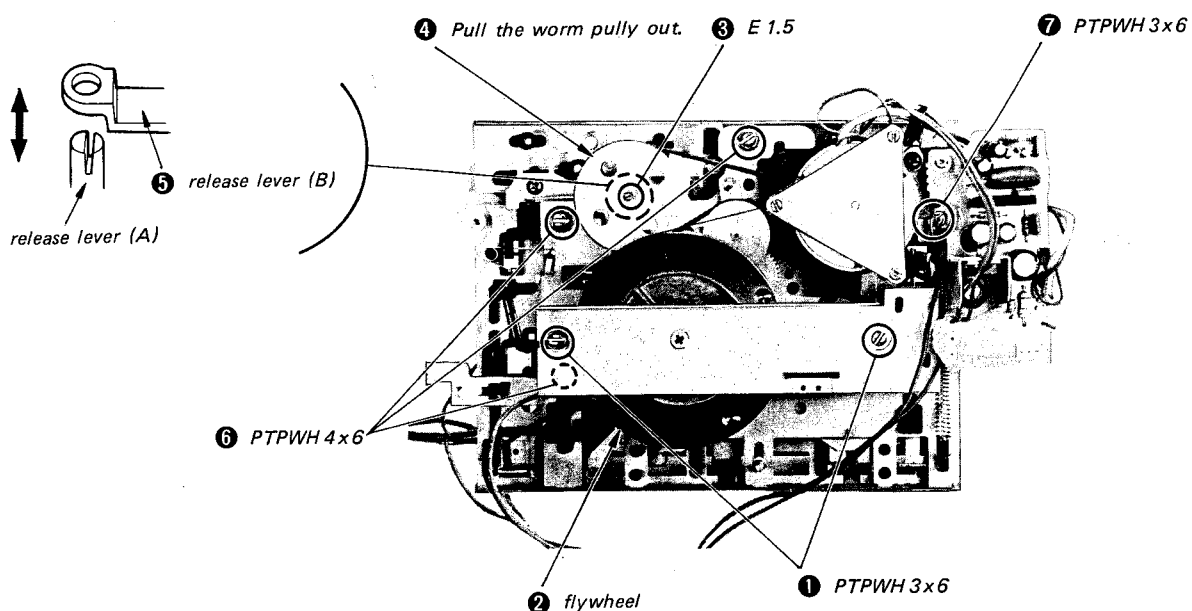
SEPARATION OF MECHANISM SECTION AND FUNCTION BLOCK

⑦ disconnect two lead wires



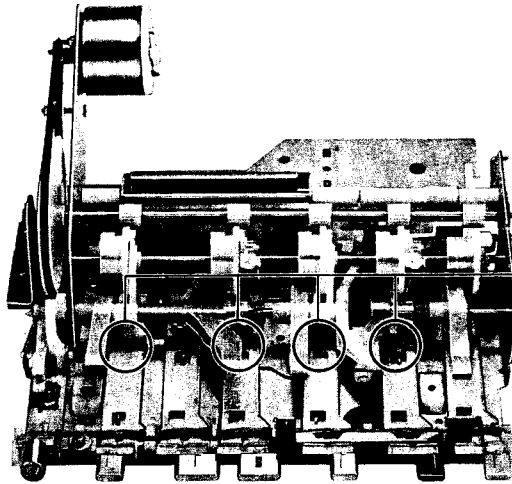
MECHANISM SECTION REMOVAL

Perform steps ① to ⑦, then separate the reel spindle plate ass'y and the chassis.

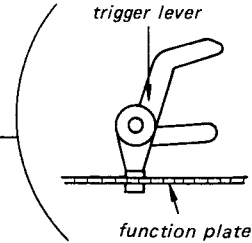


FUNCTION BLOCK REMOVAL

Refer to the exploded views on page 9.

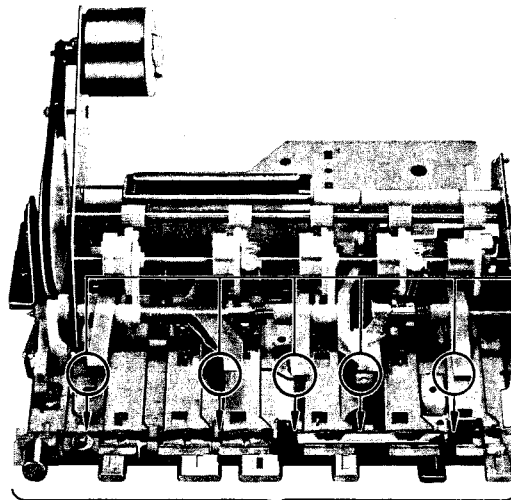


NOTE ON THE FUNCTION BLOCK INSTALLATION

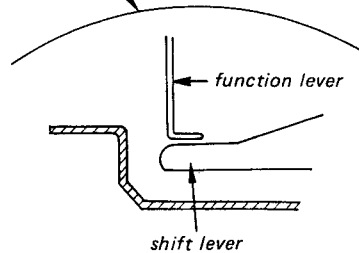


1. The tip of each trigger lever should be in the hole of each function plate.
2. Each gear and lever should be properly installed.

INSTALLATION OF MECHANISM SECTION AND FUNCTION BLOCK



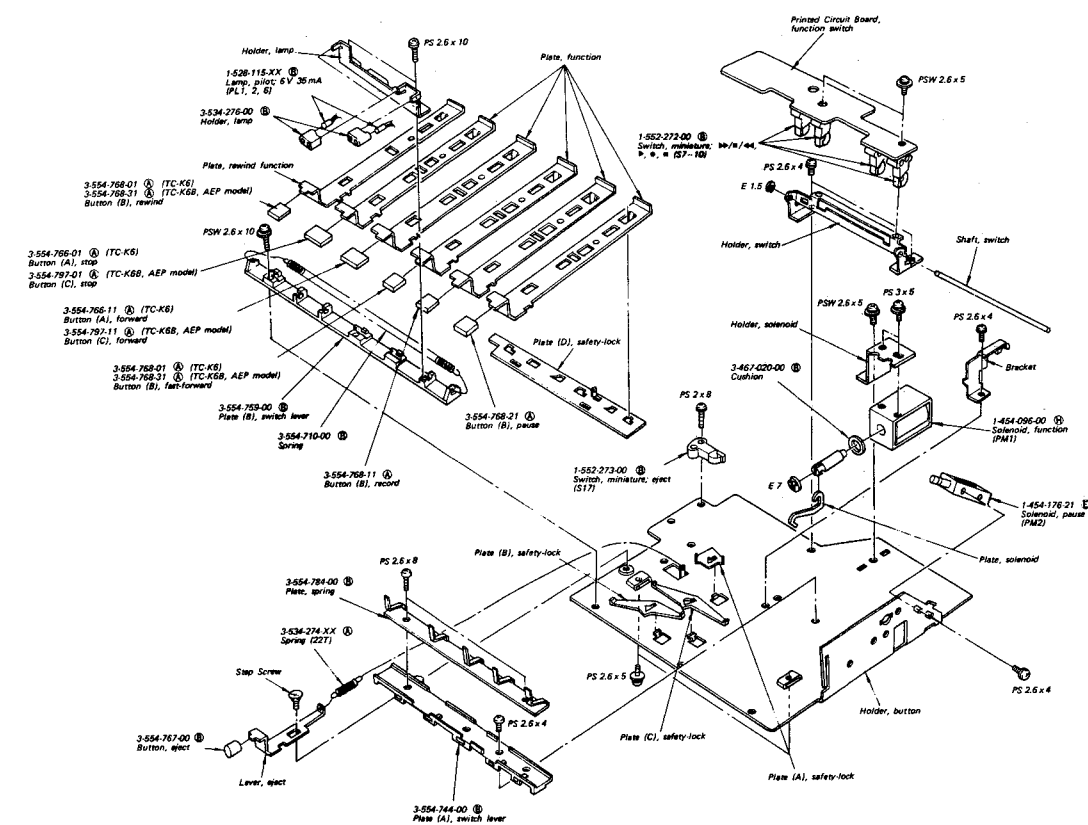
- 1 Push the five shift levers with fingers.



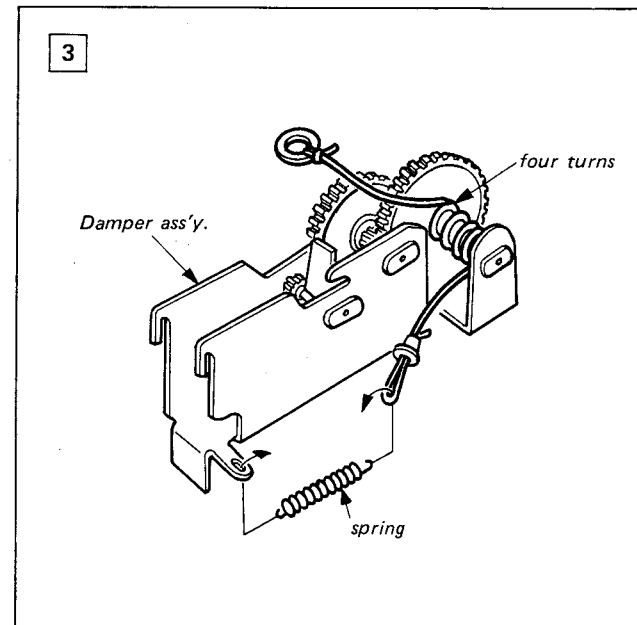
2. Set the shift lever under the function lever.
3. Install the mechanism section and the function block.

(Same as exploded views on pages 39 and 40.)

(2)



7^o CORD STRINGING OF DAMPER ASS'Y



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

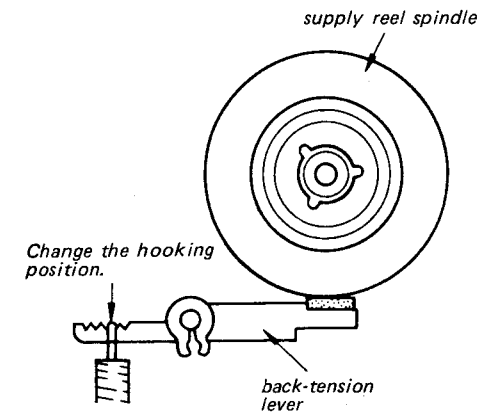
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Playback Tension Torque Adjustment

— Playback Mode —

Use the type CQ-102A cassette torque meter.

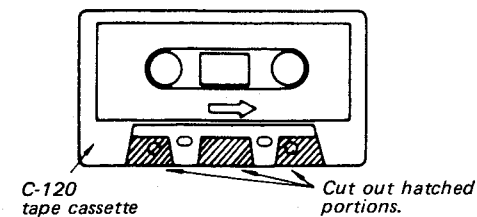


Specification: 2–4.5 g·cm (0.03–0.06 oz·inch)

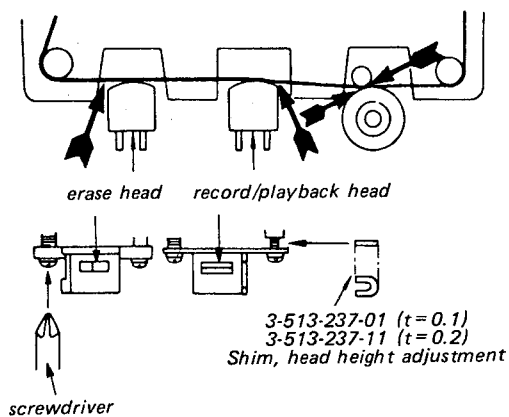
Tape Path Adjustment

— Playback Mode —

1. Make an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.

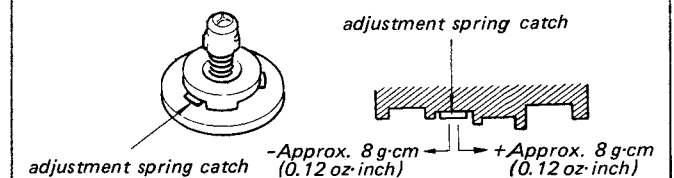


Forward Torque Adjustment

— Playback Mode —

1. Place the type CQ-102A cassette torque meter in the set.
2. Change the position of the adjustment spring catch.

take-up reel spindle

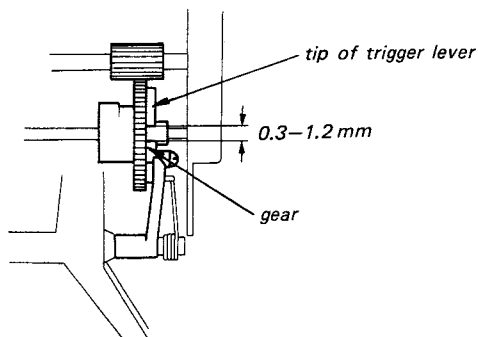


Reference Data

Pinch Roller Pressure: 310–390 g (11–14 oz)

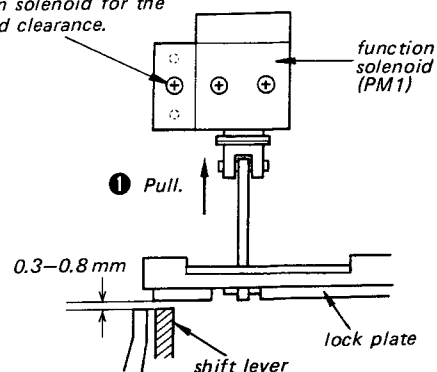
Function Switch Board Position Adjustment

1. Push the forward button (►) with the gear held, and confirm that the condition of the gear and the tip of trigger lever is as shown below.
2. Adjust the position of the function switch board so that the motor rotates.



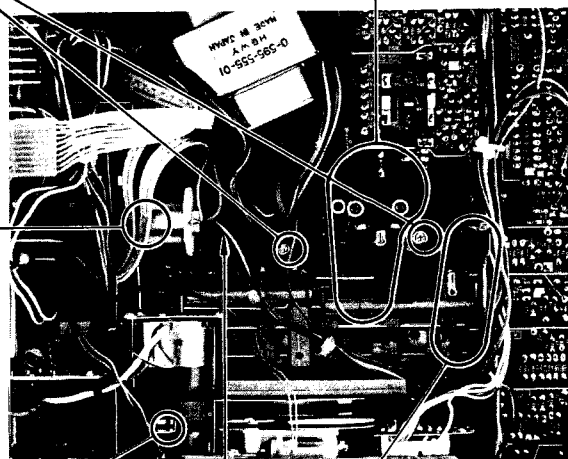
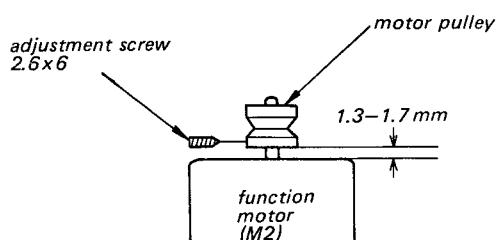
Function Solenoid (PM1) Position Adjustment

2. Adjust the position of the function solenoid for the specified clearance.



Function Motor Pulley Height Adjustment

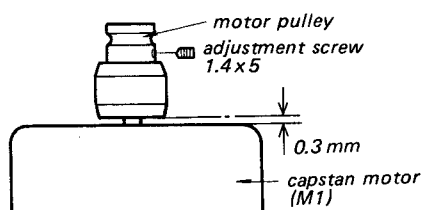
Adjust the position of the motor pulley for the specified clearance.



function switch board

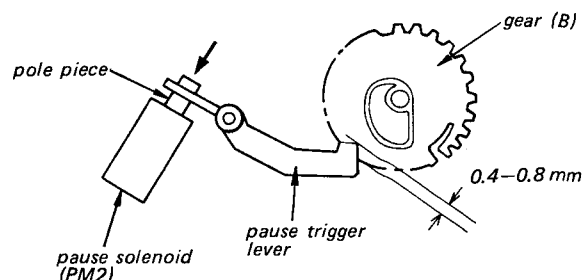
Capstan Motor Pulley Height Adjustment

Adjust the position of the motor pulley for the specified clearance.



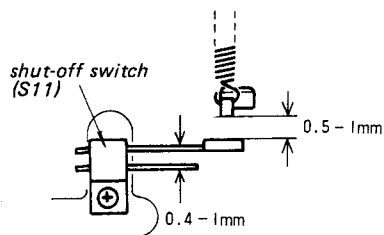
Pause Solenoid (PM2) Position Adjustment

1. Push the pole piece.
2. Adjust the position of the pause solenoid for the specified clearance.



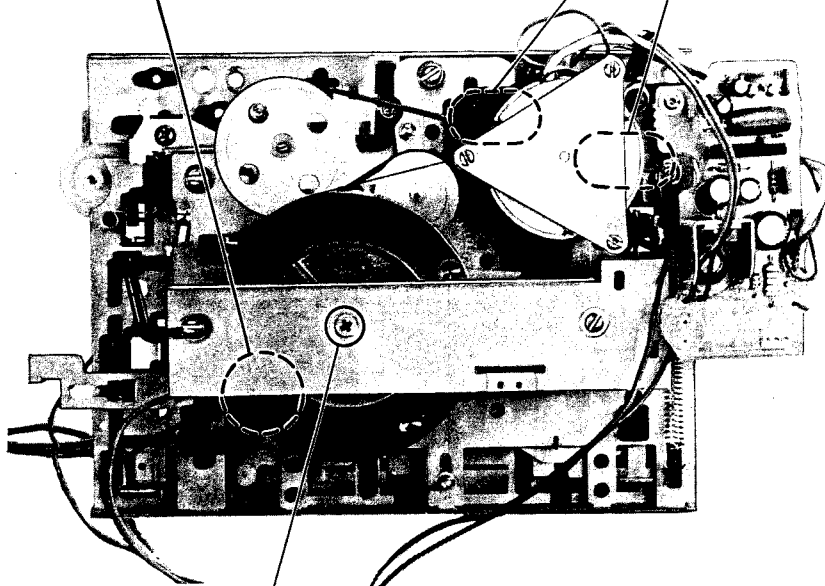
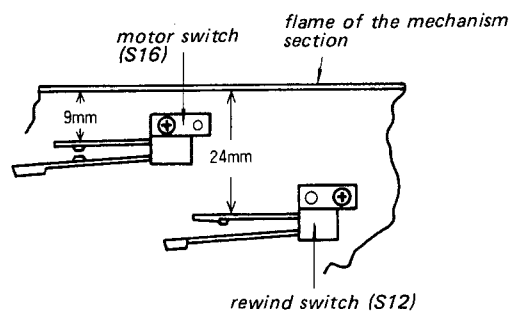
Shut-off Switch (S11) Position Adjustment

Adjust the position of the shut-off switch (S11).



Motor Switch (S16) and Rewind Switch (S12) Position Adjustment

Adjust the positions of switches.



Thrust Play Adjustment

— Playback Mode —

1. Loosen the thrust screw.
2. Carefully turn the thrust screw clockwise until current suddenly increases. Then loosen the thrust screw $\frac{1}{4}$ turn.
3. Secure the thrust screw with a suitable locking compound.

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

BIAS and EQ switch settings in accordance with tape used are as follows.

Tape	BIAS switch	EQ switch
CS-10	NORMAL	NORMAL
CS-20	HIGH	CrO ₂
CS-30	NORMAL	Fe-Cr

Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
 LINE OUT/HEADPHONE LEVEL control: MAX
 EQ switch: NORMAL
 BIAS switch: NORMAL
 MEMORY switch: OFF
 REC MUTE switch: OFF

Standard Record:

Deliver the standard input signal level to the input jack and set the MIC REC VOL and LINE REC VOL controls to obtain the standard output signal level.

Standard Input Level

	MIC	LINE IN	REC/PB (AEP and E model)
source impedance	300Ω	10 kΩ	100 kΩ
input level	0.77 mV (-60 dB)	0.25 V (-10 dB)	17 mV (-33 dB)

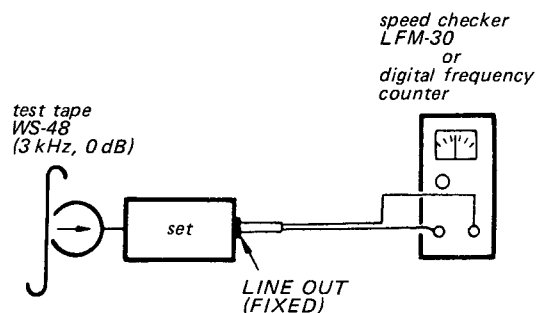
Standard Output Level

	VARIABLE LINE OUT	FIXED LINE OUT	HEAD- PHONES	REC/PB (AEP and E model)
load impedance	100 kΩ	100 kΩ	8Ω	50 kΩ
output level	0.775 V (0 dB)	0.44 V (-5 dB)	95 mV (-18 dB)	0.775 V (0 dB)

Tape Speed Adjustment

Procedure:

Mode: Playback

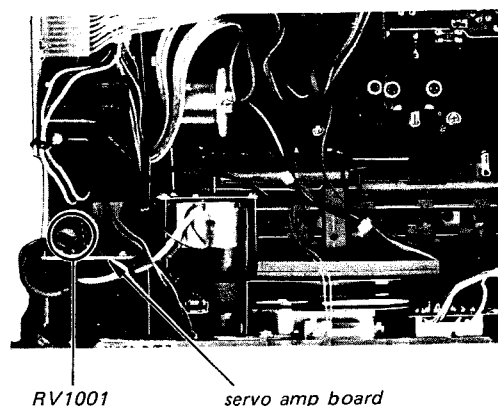


Specification:

Speed checker	Digital frequency counter
-0.7-+0.7%	2,980-3,020 Hz

Frequency difference between beginning and end of tape should be within 0.7% (20 Hz).

Adjustment Location:

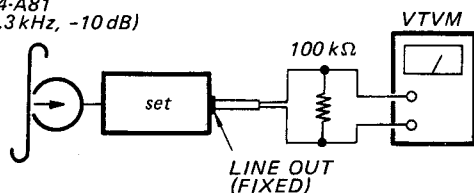


Record/playback Head Azimuth Adjustment

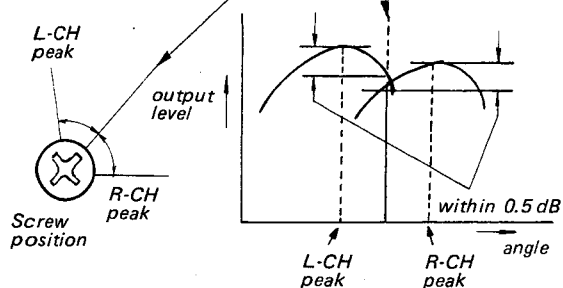
Procedure:

1. Mode: Playback

test tape
P-4-A81
(6.3 kHz, -10 dB)

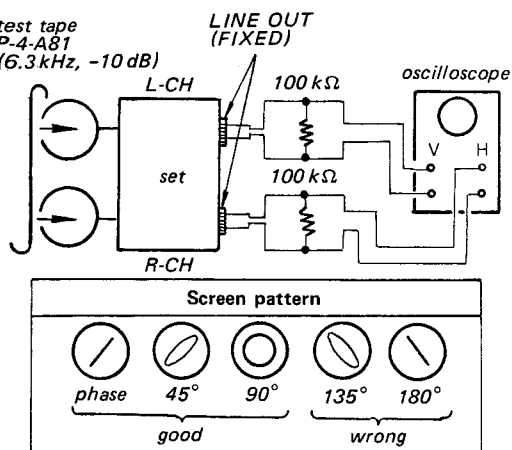


2. Turn the adjustment screw for the maximum level and set it to the mechanical mid position between L-CH and R-CH peak positions.

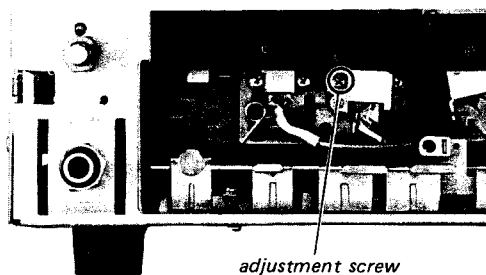


3. Mode: Playback

test tape
P-4-A81
(6.3 kHz, -10 dB)



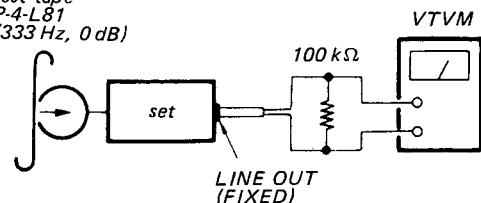
Adjustment Location:



Playback Level Adjustment

Procedure:

test tape
P-4-L81
(333 Hz, 0 dB)

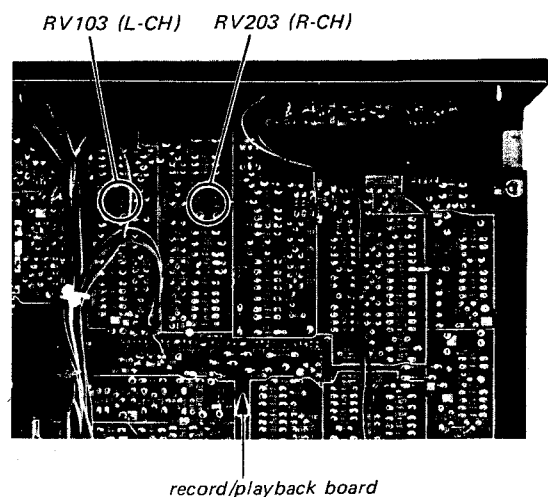


Specification:

LINE OUT level: 0.52–0.58 V (–3.5 – –2.5 dB)

Check that LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

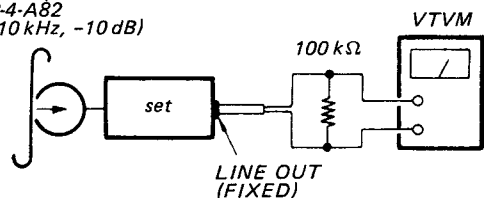


Playback Equalizer Adjustment

Procedure:

Mode: Playback

test tape
P-4-A82
(10 kHz, -10 dB)

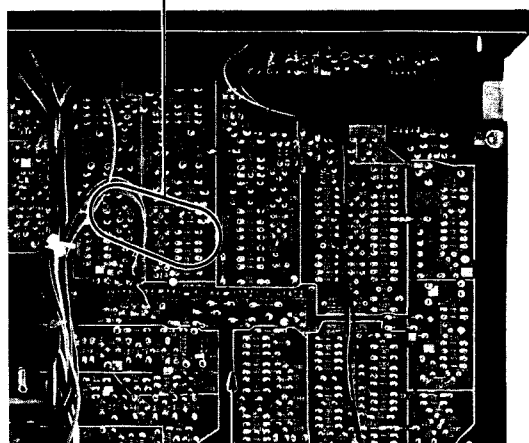
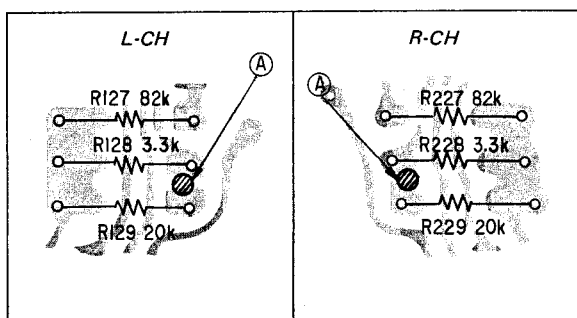


Specification:

EQ switch	LINE OUT (FIXED) level
NORMAL	0.26 – 0.37 V (-9.5 – -6.5 dB)
Fe-Cr or Cr-O ₂	0.16 – 0.22 V (-14 – -11 dB)

Adjustment Location:

Bridge patterns	High frequency level
(open)	up
Ⓐ	down

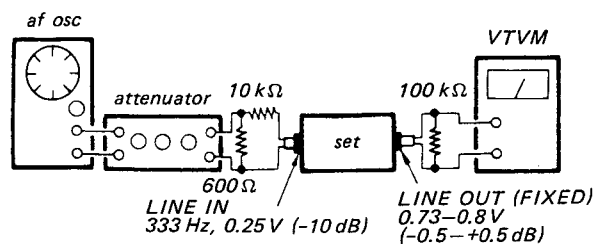


record/playback board

VU Meter Adjustment

Procedure:

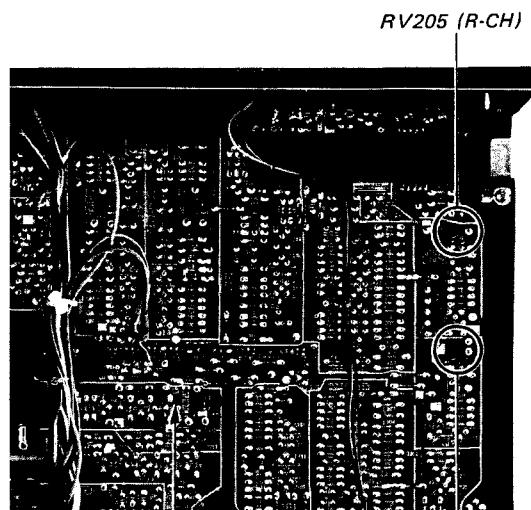
1. Mode: Standard record (See page 15.)



- 2.

Adjust	VU meter reading: 0VU
RV105 (L-CH)	
RV205 (R-CH)	

Adjustment Location:



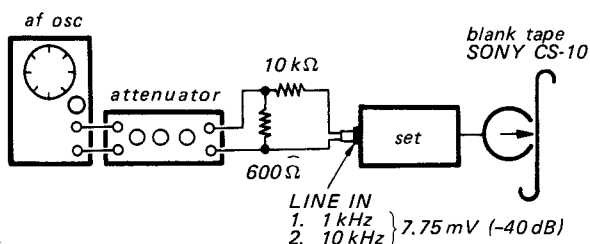
record/playback board

RV105 (L-CH)

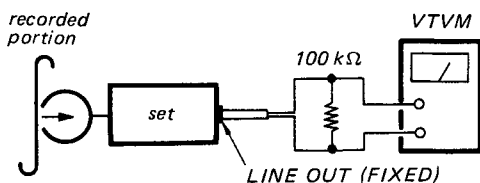
Record Bias Adjustment

Procedure:

1. Mode: Standard record (See page 15.)



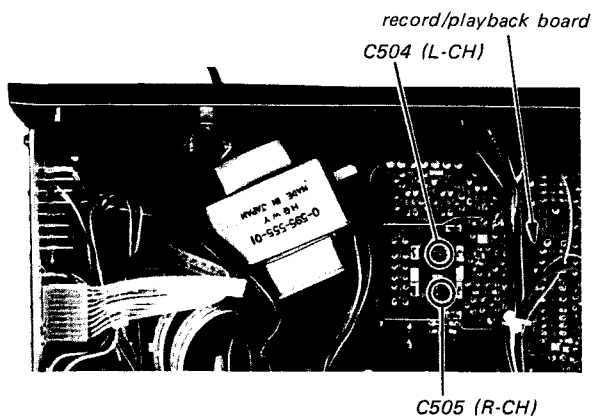
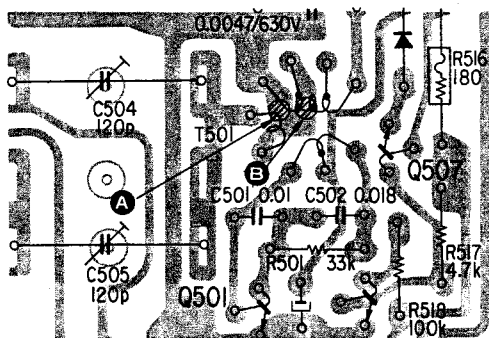
2. Mode: Playback



Adjust C504 (L-CH) and C505 (R-CH) to make 10 kHz and 1 kHz signal output levels equal.

Adjustment Location:

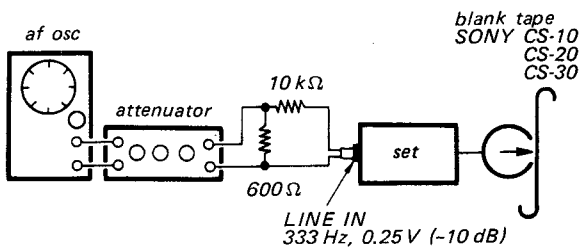
Note: Normally, patterns at **A** are bridged. If adjustment is not made with trimmers fully tightened, unsolder the bridged patterns at **A** and at **B**, then repeat the adjustment.



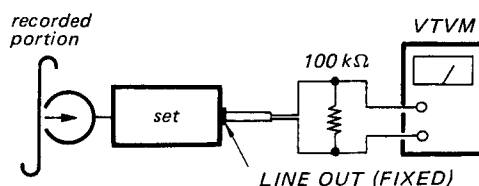
Record Level Adjustment

Procedure:

1. Mode: Standard record (See page 15.)



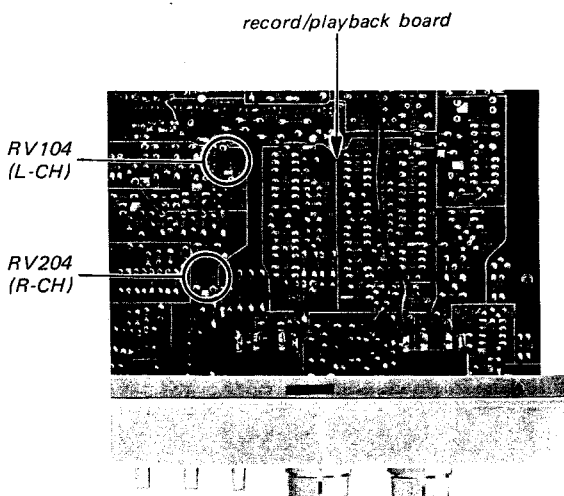
2. Mode: Playback



Specification:

SONY tape	LINE OUT level
CS-10	0.73 – 0.8 V (–0.5 – +0.5 dB)
CS-20	0.55 – 0.73 V (–0.5 – –3 dB)
CS-30	0.65 – 0.9 V (–1.5 – +1.5 dB)

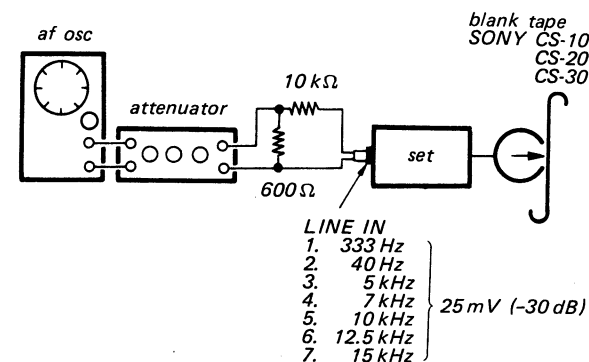
Adjustment Location:



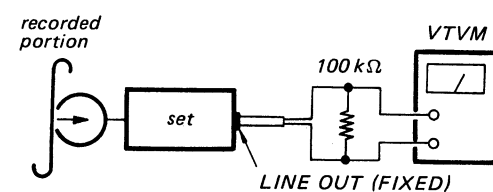
Overall Frequency Response Adjustment

Procedure:

1. Mode: Standard record (See page 15.)



2. Mode: Playback

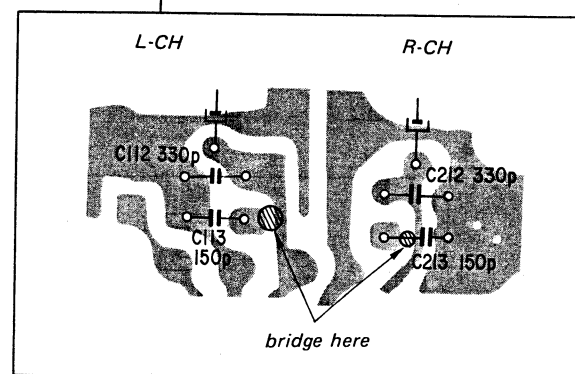
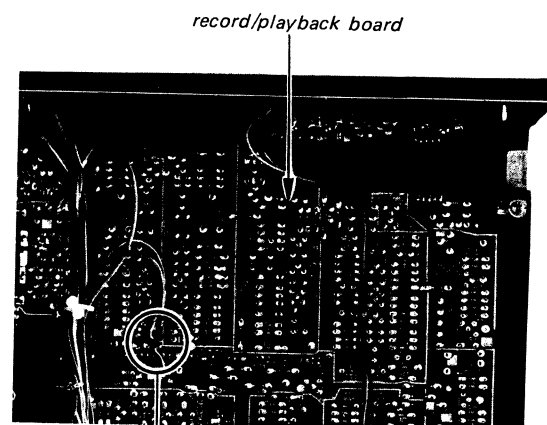


3. Measure LINE OUT level with 333Hz output level as reference.

Tape freq.	CS-10	CS-20	CS-30
40 Hz	+2 dB -1 dB	+2 dB -1 dB	+2 dB -1 dB
5 kHz	±2 dB	+3 dB -2 dB	±2 dB
7 kHz		+4 dB -1 dB	
10 kHz		+4 dB -2 dB	
12.5 kHz	±3 dB	±3 dB	±3 dB
15 kHz			

If the 15 kHz level is out of the specification, adjust by bridging patterns. The 10 kHz level will go up (about +1.3 dB), and the 15 kHz level will go up (about +2 dB).

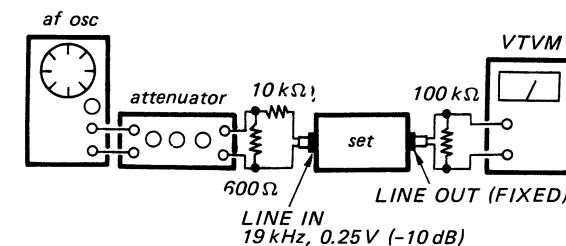
Adjustment Location:



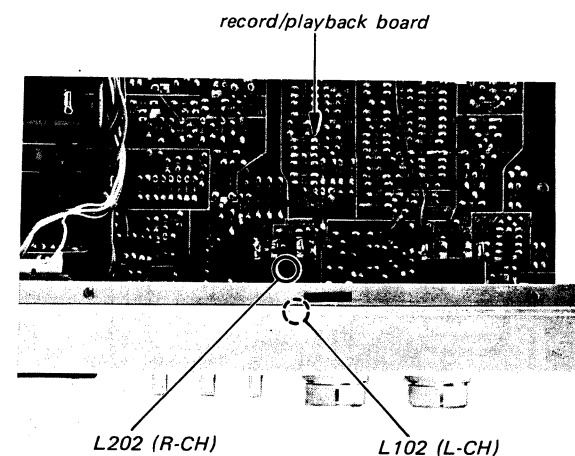
19 kHz Filter Adjustment

Procedure:

1. Mode: Standard record (See page 15.)
2. DOLBY NR switch: ON (FILTER ON)
Adjust L102 (L-CH) and L202 (R-CH) for minimum VTVM reading.



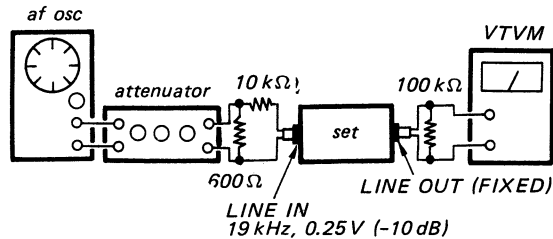
Adjustment Location:



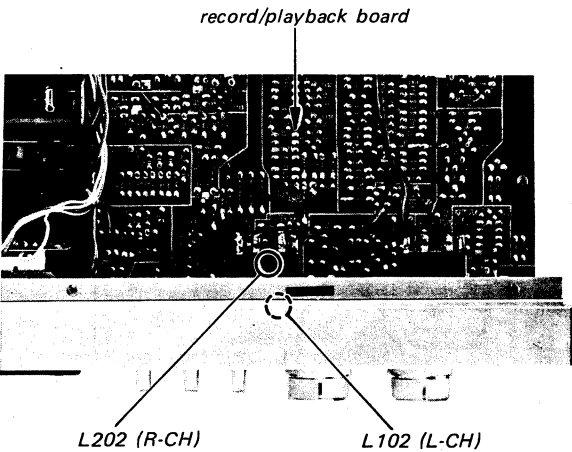
19 kHz Filter Adjustment

Procedure:

1. Mode: Standard record (See page 15.)
2. DOLBY NR switch: ON (FILTER ON)
Adjust L102 (L-CH) and L202 (R-CH) for minimum VTVM reading.



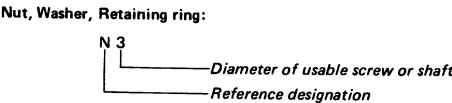
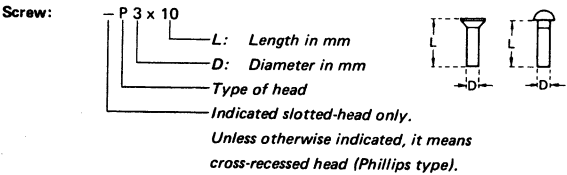
Adjustment Location:



1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-244-601-11	10	1-244-625-11	100	1-244-649-11	1.0k	1-244-673-11	10k	1-244-697-11	100k	1-244-721-11
1.1	1-244-602-11	11	1-244-626-11	110	1-244-650-11	1.1k	1-244-674-11	11k	1-244-698-11	110k	1-244-722-11
1.2	1-244-603-11	12	1-244-627-11	120	1-244-651-11	1.2k	1-244-675-11	12k	1-244-699-11	120k	1-244-723-11
1.3	1-244-604-11	13	1-244-628-11	130	1-244-652-11	1.3k	1-244-676-11	13k	1-244-700-11	130k	1-244-724-11
1.5	1-244-605-11	15	1-244-629-11	150	1-244-653-11	1.5k	1-244-677-11	15k	1-244-701-11	150k	1-244-725-11
1.6	1-244-606-11	16	1-244-630-11	160	1-244-654-11	1.6k	1-244-678-11	16k	1-244-702-11	160k	1-244-726-11
1.8	1-244-607-11	18	1-244-631-11	180	1-244-655-11	1.8k	1-244-679-11	18k	1-244-703-11	180k	1-244-727-11
2.0	1-244-608-11	20	1-244-632-11	200	1-244-656-11	2.0k	1-244-680-11	20k	1-244-704-11	200k	1-244-728-11
2.2	1-244-609-11	22	1-244-633-11	220	1-244-657-11	2.2k	1-244-681-11	22k	1-244-705-11	220k	1-244-729-11
2.4	1-244-610-11	24	1-244-634-11	240	1-244-658-11	2.4k	1-244-682-11	24k	1-244-706-11	240k	1-244-730-11
2.7	1-244-611-11	27	1-244-635-11	270	1-244-659-11	2.7k	1-244-683-11	27k	1-244-707-11	270k	1-244-731-11
3.0	1-244-612-11	30	1-244-636-11	300	1-244-660-11	3.0k	1-244-684-11	30k	1-244-708-11	300k	1-244-732-11
3.3	1-244-613-11	33	1-244-637-11	330	1-244-661-11	3.3k	1-244-685-11	33k	1-244-709-11	330k	1-244-733-11
3.6	1-244-614-11	36	1-244-638-11	360	1-244-662-11	3.6k	1-244-686-11	36k	1-244-710-11	360k	1-244-734-11
3.9	1-244-615-11	39	1-244-639-11	390	1-244-663-11	3.9k	1-244-687-11	39k	1-244-711-11	390k	1-244-735-11
4.3	1-244-616-11	43	1-244-640-11	430	1-244-664-11	4.3k	1-244-688-11	43k	1-244-712-11	430k	1-244-736-11
4.7	1-244-617-11	47	1-244-641-11	470	1-244-665-11	4.7k	1-244-689-11	47k	1-244-713-11	470k	1-244-737-11
5.1	1-244-618-11	51	1-244-642-11	510	1-244-666-11	5.1k	1-244-690-11	51k	1-244-714-11	510k	1-244-738-11
5.6	1-244-619-11	56	1-244-643-11	560	1-244-667-11	5.6k	1-244-691-11	56k	1-244-715-11	560k	1-244-739-11
6.2	1-244-620-11	62	1-244-644-11	620	1-244-668-11	6.2k	1-244-692-11	62k	1-244-716-11	620k	1-244-740-11
6.8	1-244-621-11	68	1-244-645-11	680	1-244-669-11	6.8k	1-244-693-11	68k	1-244-717-11	680k	1-244-741-11
7.5	1-244-622-11	75	1-244-646-11	750	1-244-670-11	7.5k	1-244-694-11	75k	1-244-718-11	750k	1-244-742-11
8.2	1-244-623-11	82	1-244-647-11	820	1-244-671-11	8.2k	1-244-695-11	82k	1-244-719-11	820k	1-244-743-11
9.1	1-244-624-11	91	1-244-648-11	910	1-244-672-11	9.1k	1-244-696-11	91k	1-244-720-11	910k	1-244-744-11

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SECTION 4 DIAGRAMS

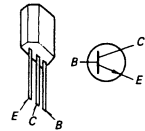
4-1. MOUNTING DIAGRAM — System Control Section —

— Conductor Side —

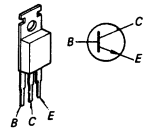
Replacement Semiconductors

For replacement, use semiconductors except in ().

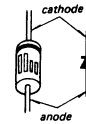
Q601, 602, 604—606
Q608, 609, 611—616 : 2SC634A
Q618, 621



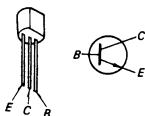
Q1001: 2SC1061 (2SC1419)



D617: EQB01-12 (EQA01-12R)
D622: EQB01-08 (EQA01-08R)



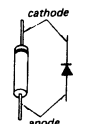
Q603, 607, 617: 2SC1475



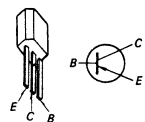
IC1001: CX065A (CX065)



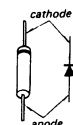
D618, 619
D623—629
(US, Canadian model) : 10E2
D623, 625, 627, 629
(AEP, E model)



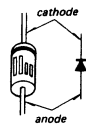
Q610: 2SA678



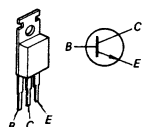
D601—616, 620
D621, 630, 631 : 1S1555 (1T40)



(SIB01-02)

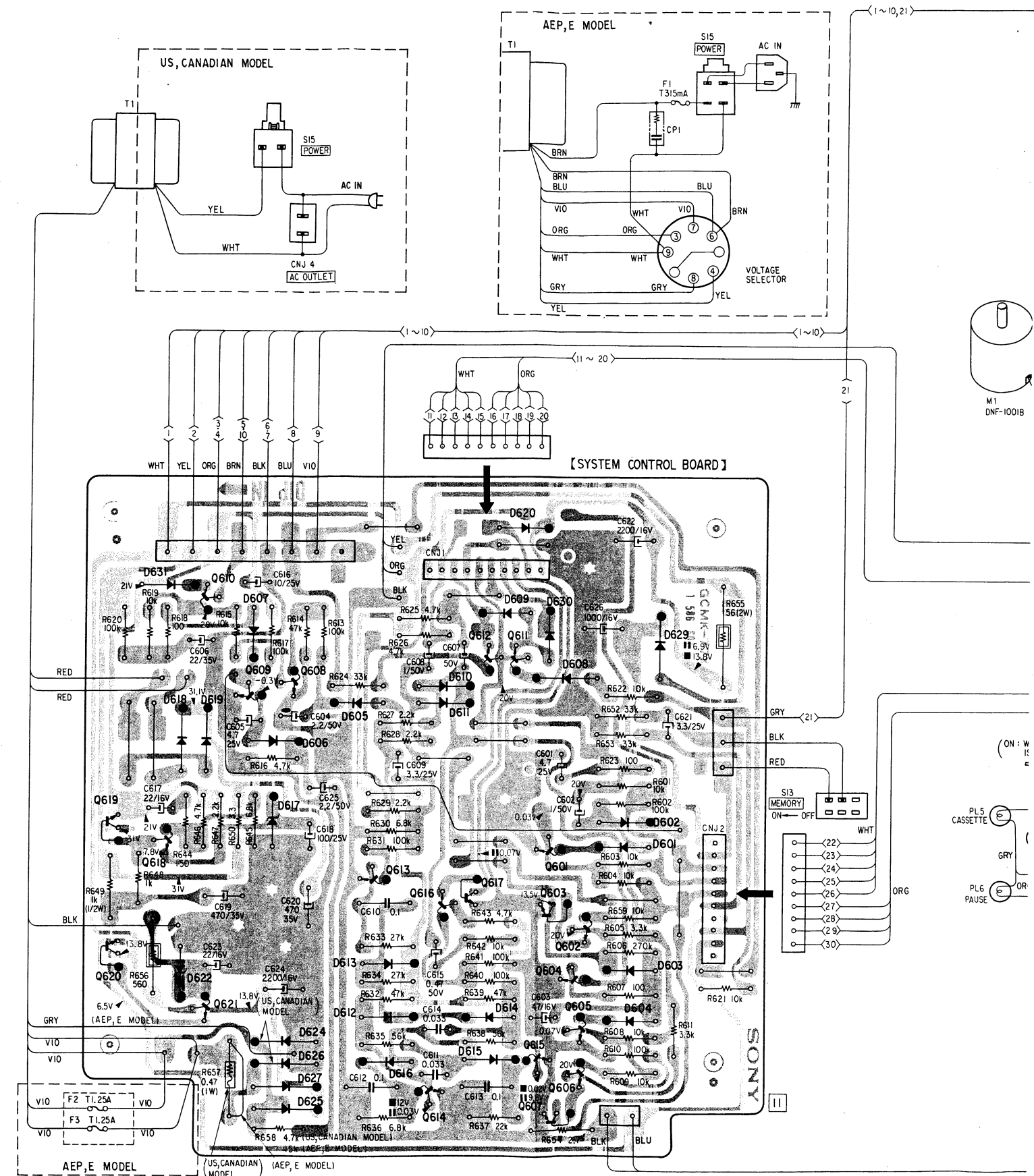
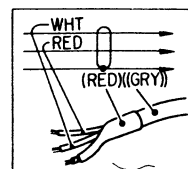


Q619, 620: 2SC1173

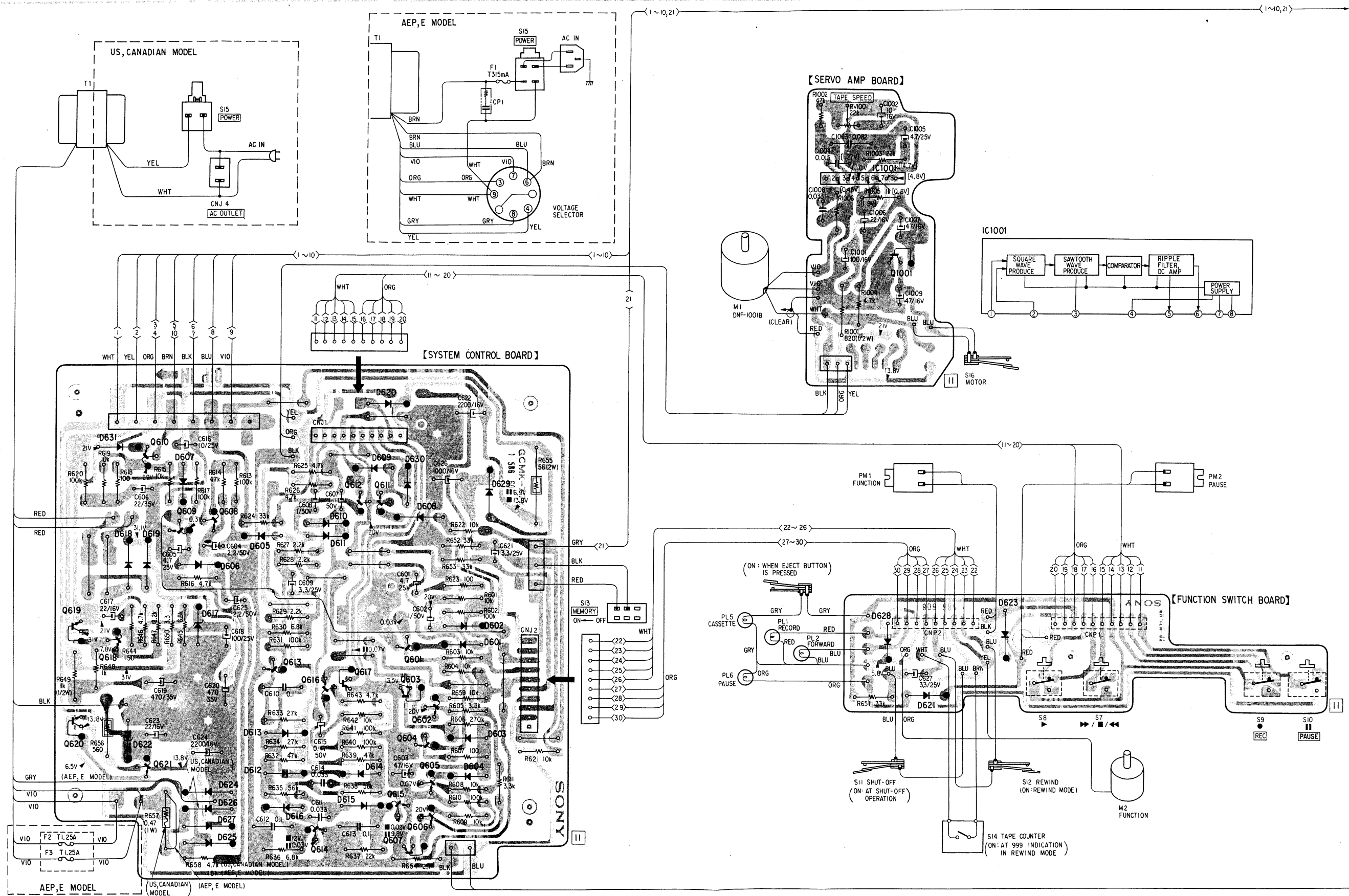


Note:

- [] : B+ pattern.
- [] : FORWARD
- [] : STOP
- [] : PAUSE
- Color code of sleeving over the end of the jacket.



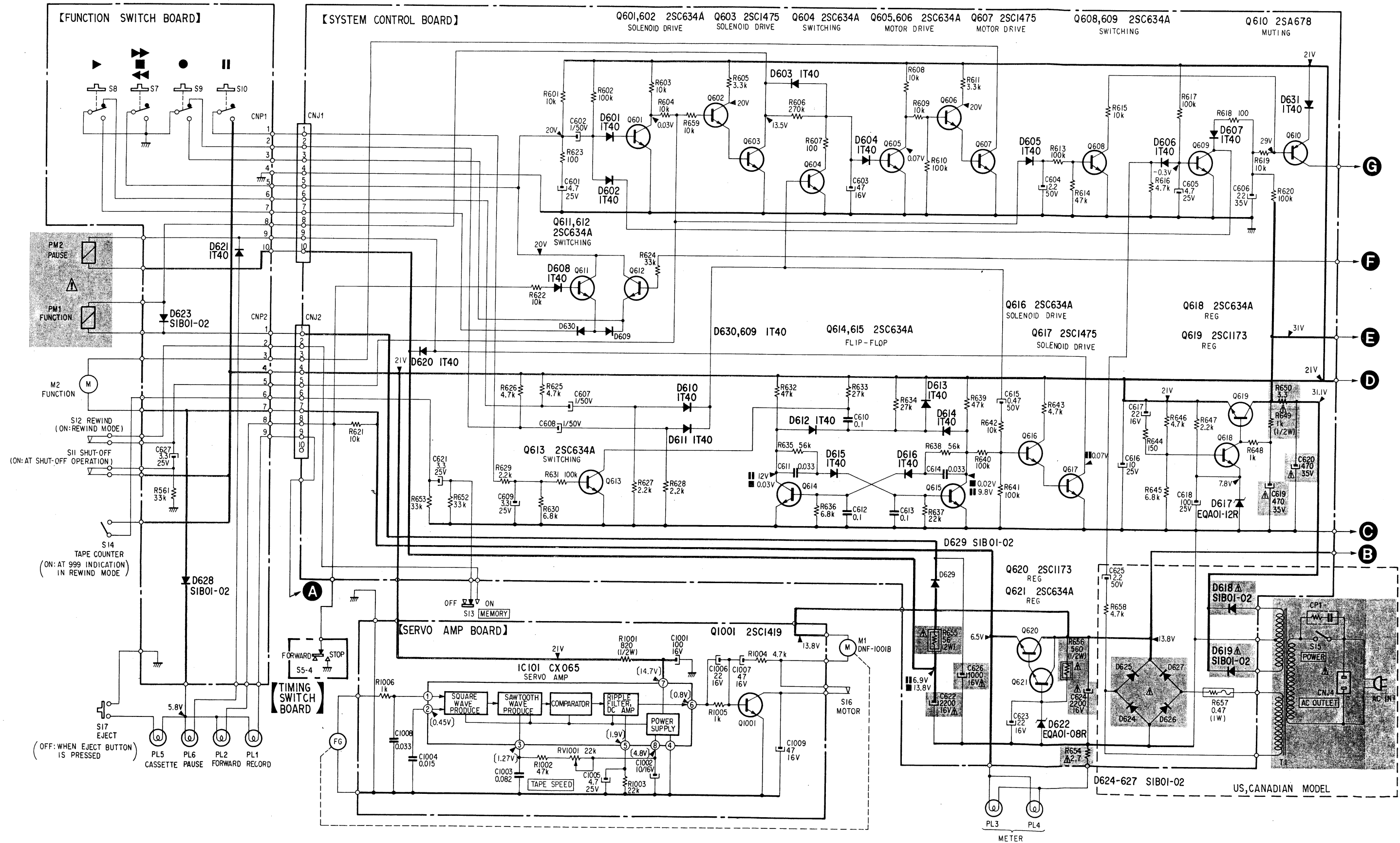
Q	619	610	609	608	613	616	617	612	611	601	602
IC	620	618	621	606	614	610	615	603	607	605	604
D		631	618	619	607	606	624	605	613	610	614
		622		617		626	612	611	615	609	620
						627	616			630	608
						625				601	602
										603	604

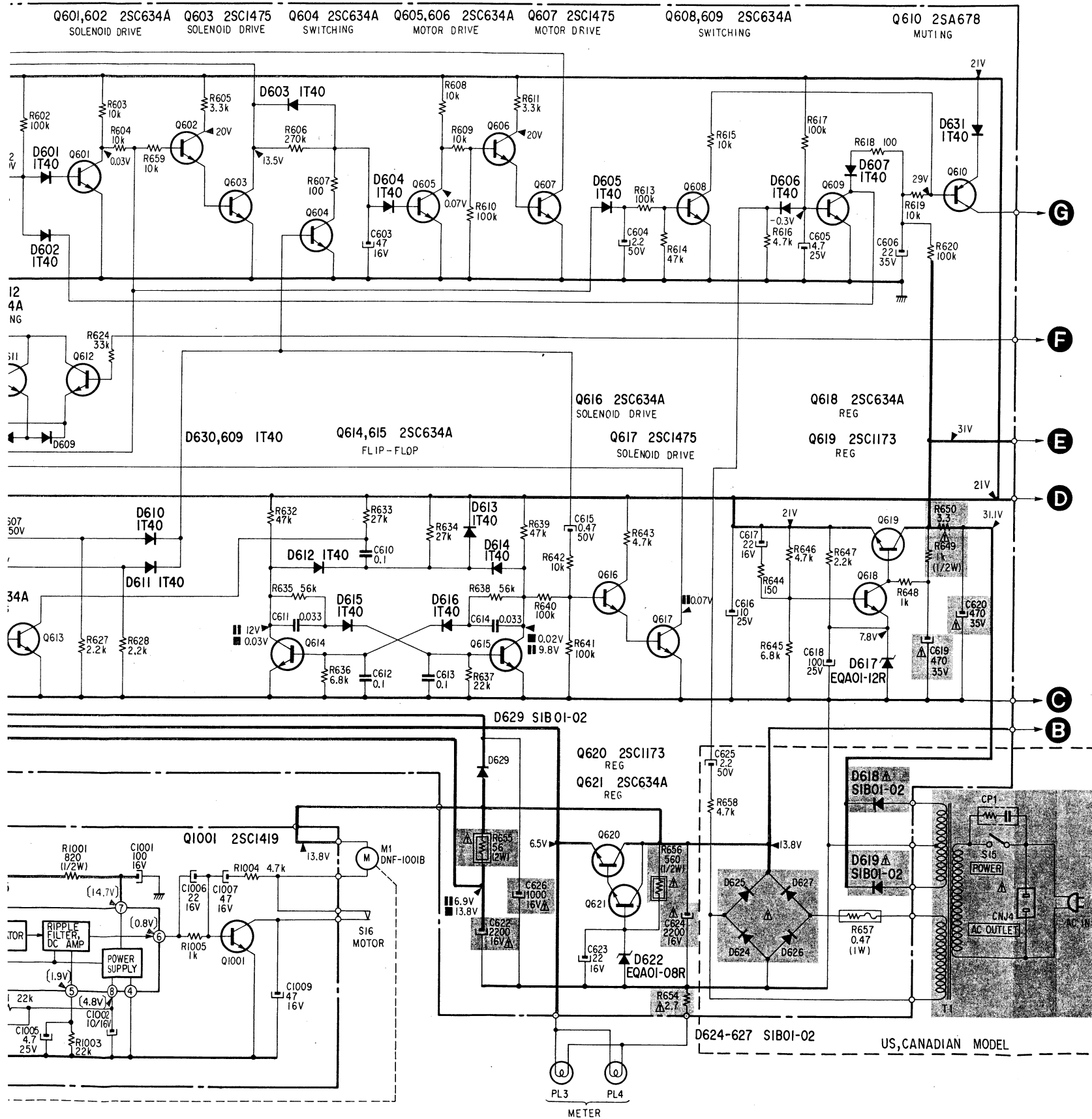


Q	619	610	609	608		613	616	617	612	611	601	602	IC1001		Q
IC	620	618	621				614			615	603	604	1001		IC
											605	606			
D		631	618	619	607	606	624	610	609	620	608	629	628	623	D
			622		617		626	611	614	609	630	603			
							625	616	615			604	621		

4-2. SCHEMATIC DIAGRAM — System Control Section —
— System Control Section —

Note: The components identified by shading and Δ mark are critical for safety. Replace only with part number specified.

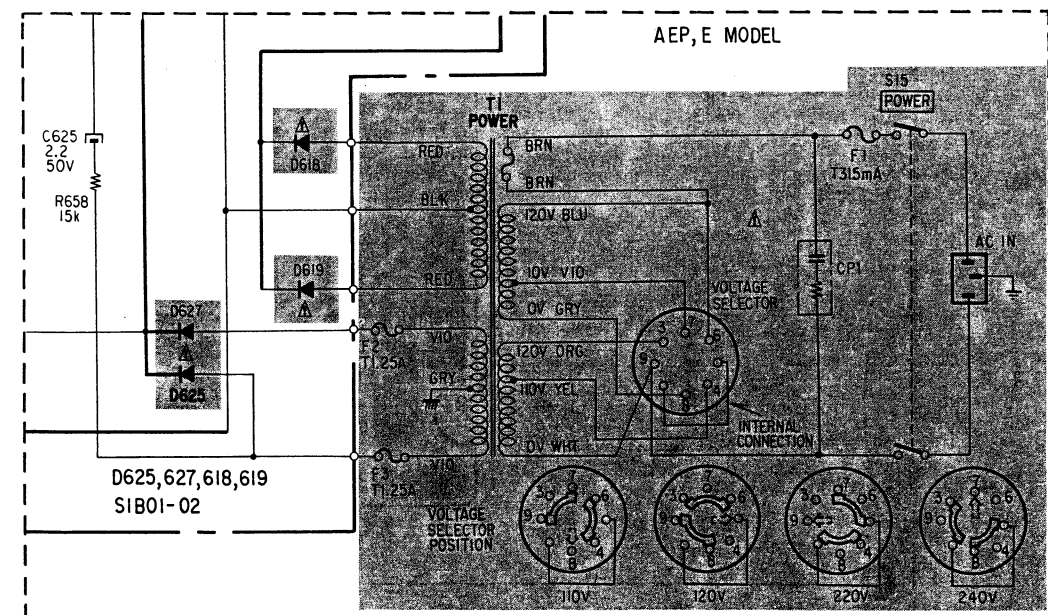




Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- : nonflammable resistor.
- : fusible resistor.
- : B+ bus.
- : panel designation.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions with a VOM (20 $\text{k}\Omega/\text{V}$).
- [] : FORWARD
- : STOP
- || : PAUSE
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S7	STOP, REWIND, FAST FORWARD	OFF
S8	FORWARD	OFF
S9	REC	OFF
S10	PAUSE	OFF
S11	SHUT-OFF	OFF
S12	REWIND	OFF
S13	MEMORY	OFF
S14	TAPE COUNTER	OFF
S15	POWER	OFF
S16	MOTOR	OFF
S17	EJECT	OFF

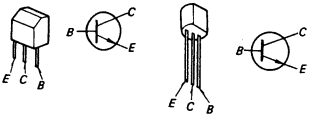


4-3. MOUNTING DIAGRAM

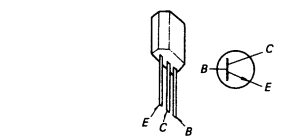
- Amp Section -
- Conductor Side -

Replacement Semiconductors
For replacement, use semiconductors except in ().

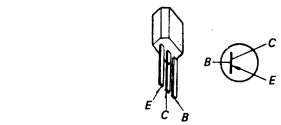
Q101-105, 107, 111
Q201-205, 207, 211 : 2SC1345



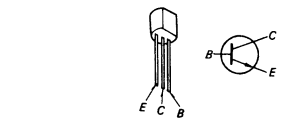
Q106, 108-110, 113
Q206, 208-210, 213
Q114-116, 224-226 : 2SC634A
Q301-305, 502-508 (2SC633A)
Q401-405



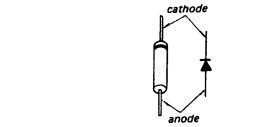
Q112, 212: 2SA678 (2SA677)



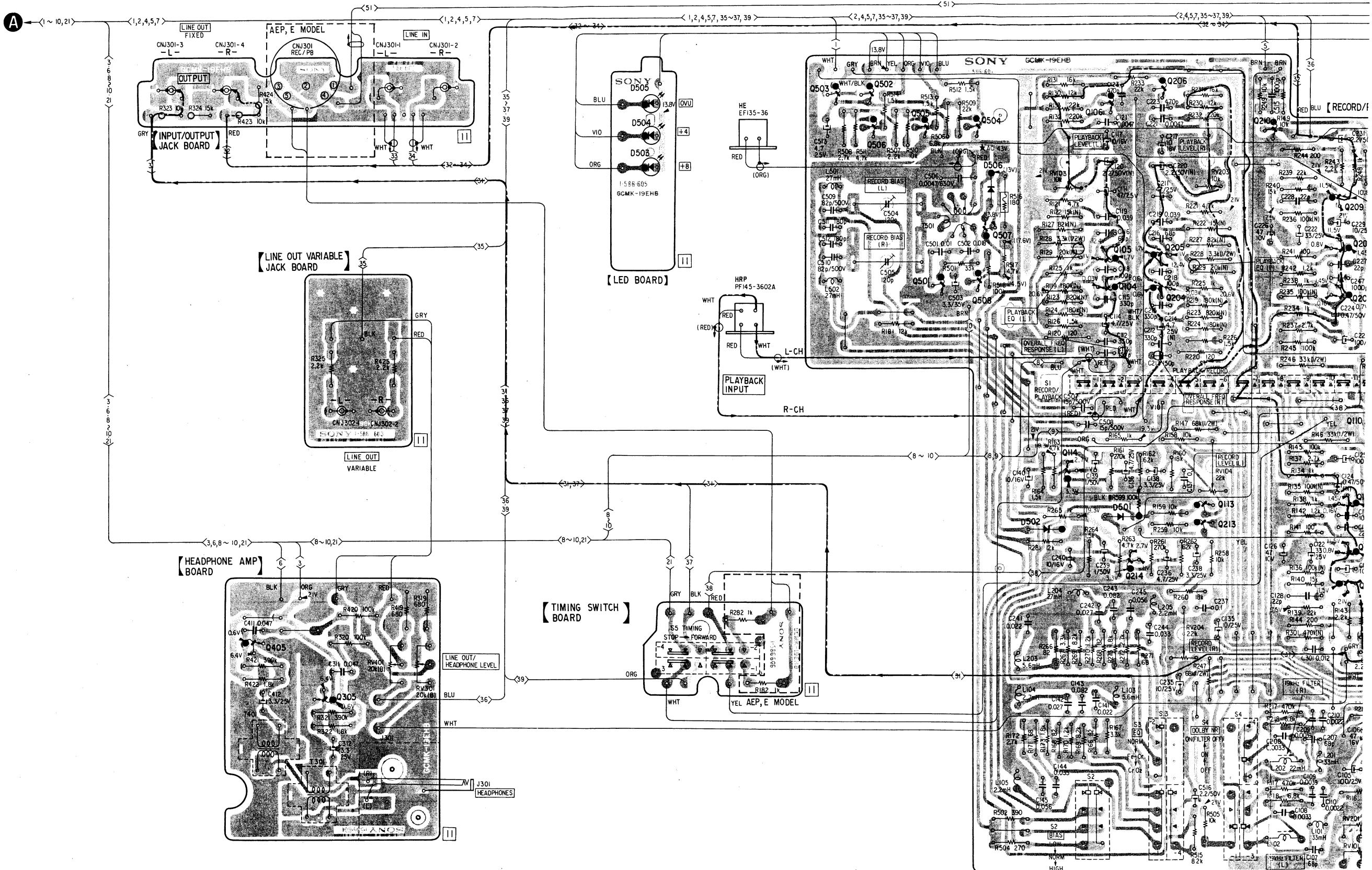
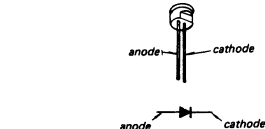
Q501: 2SC1475 (2SC1318)



D301, 302 : 1S1555
D401, 402 : 1T22A
D303, 403 : 1T22A
D304, 404 : 1S1555 (1T40)
D501, 502, 506

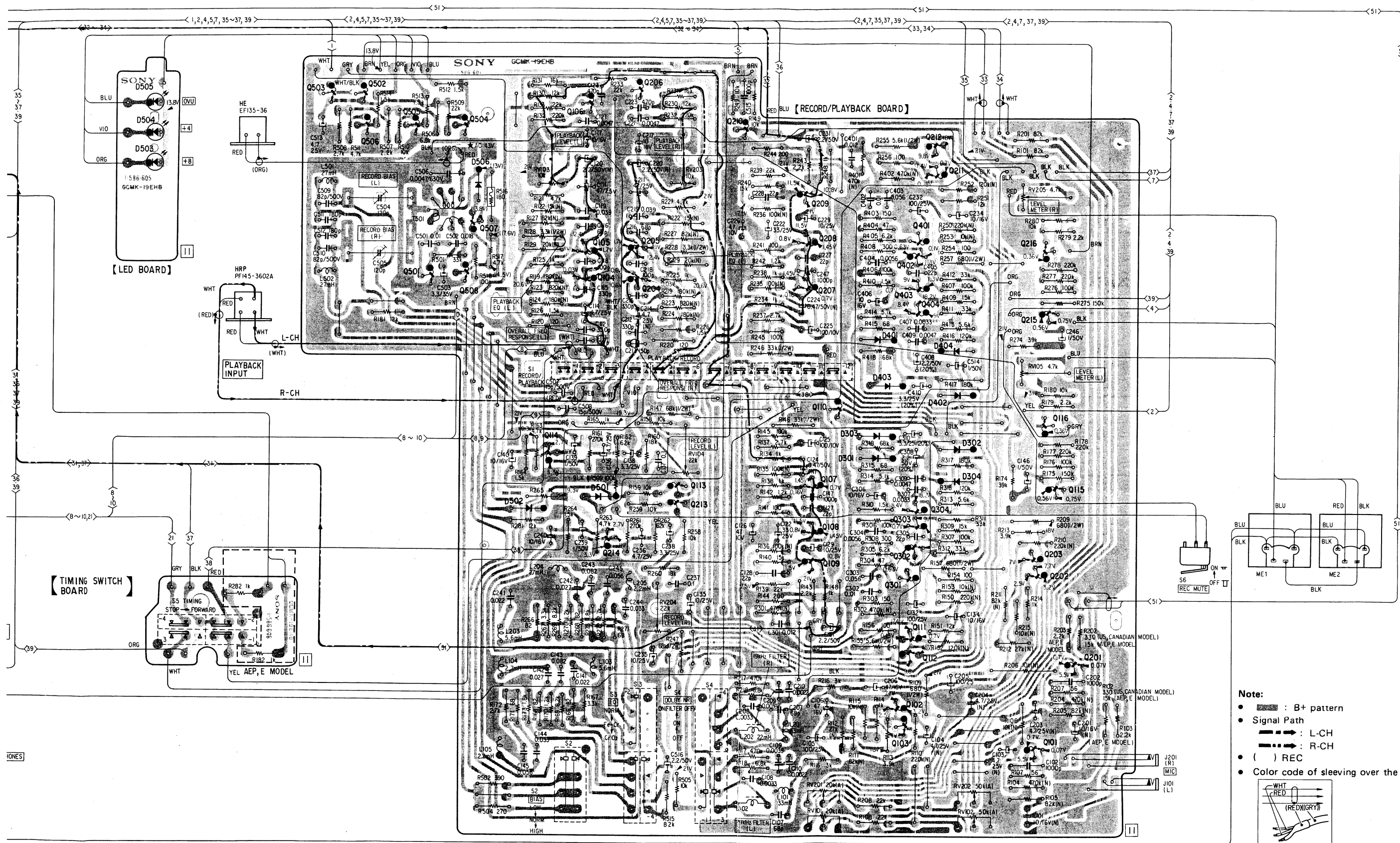


D503-505: SLP24B

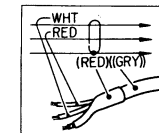


Q	405	305		503	502	505	504	114	106	206	113	210	209	107
D				505	506	501	508 507		105	205	213		208	108
				504					104	214			207	109
				503										
							506							
								502		501				

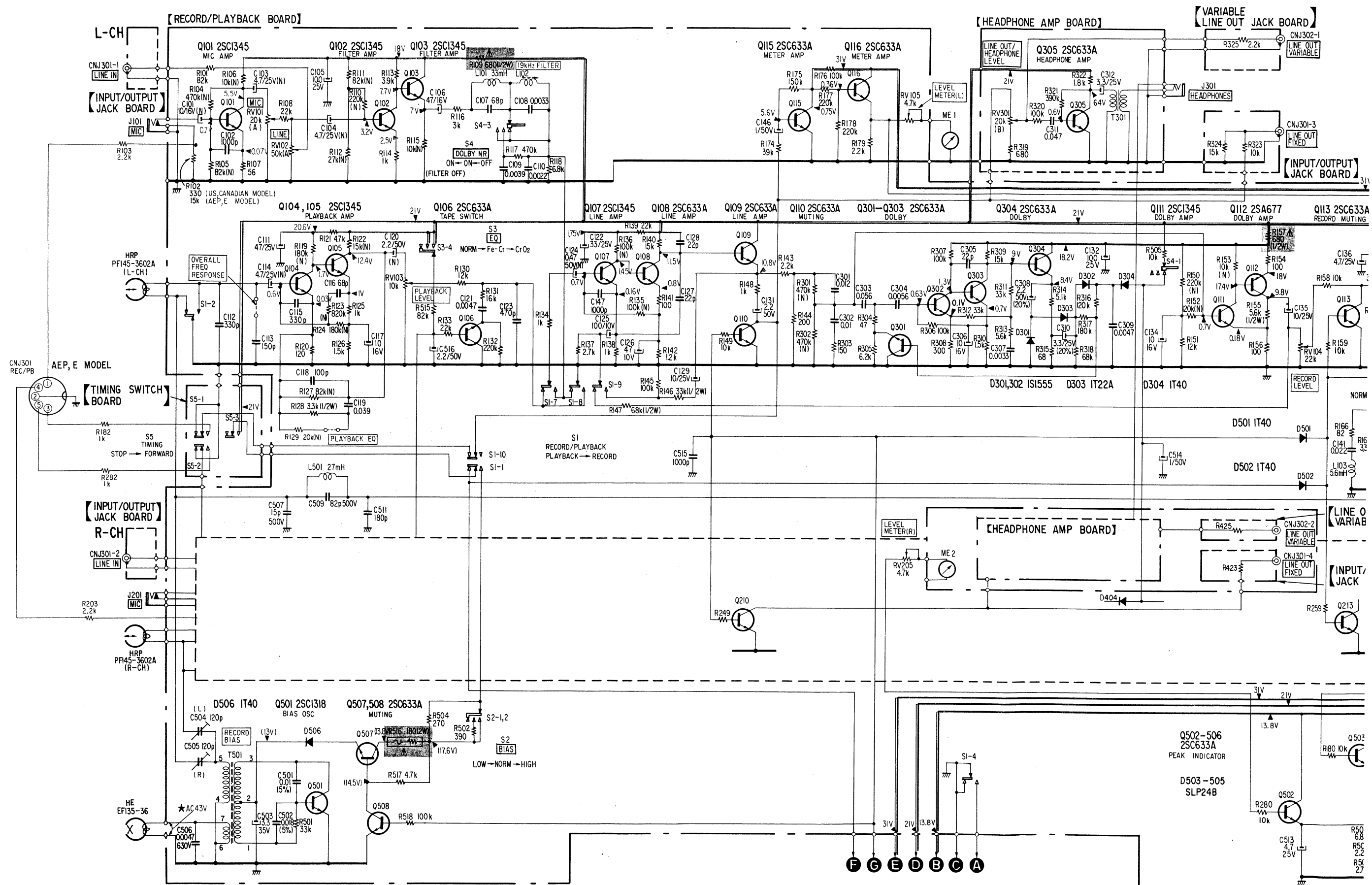
TC-K6/K6B TC-K6/K6B

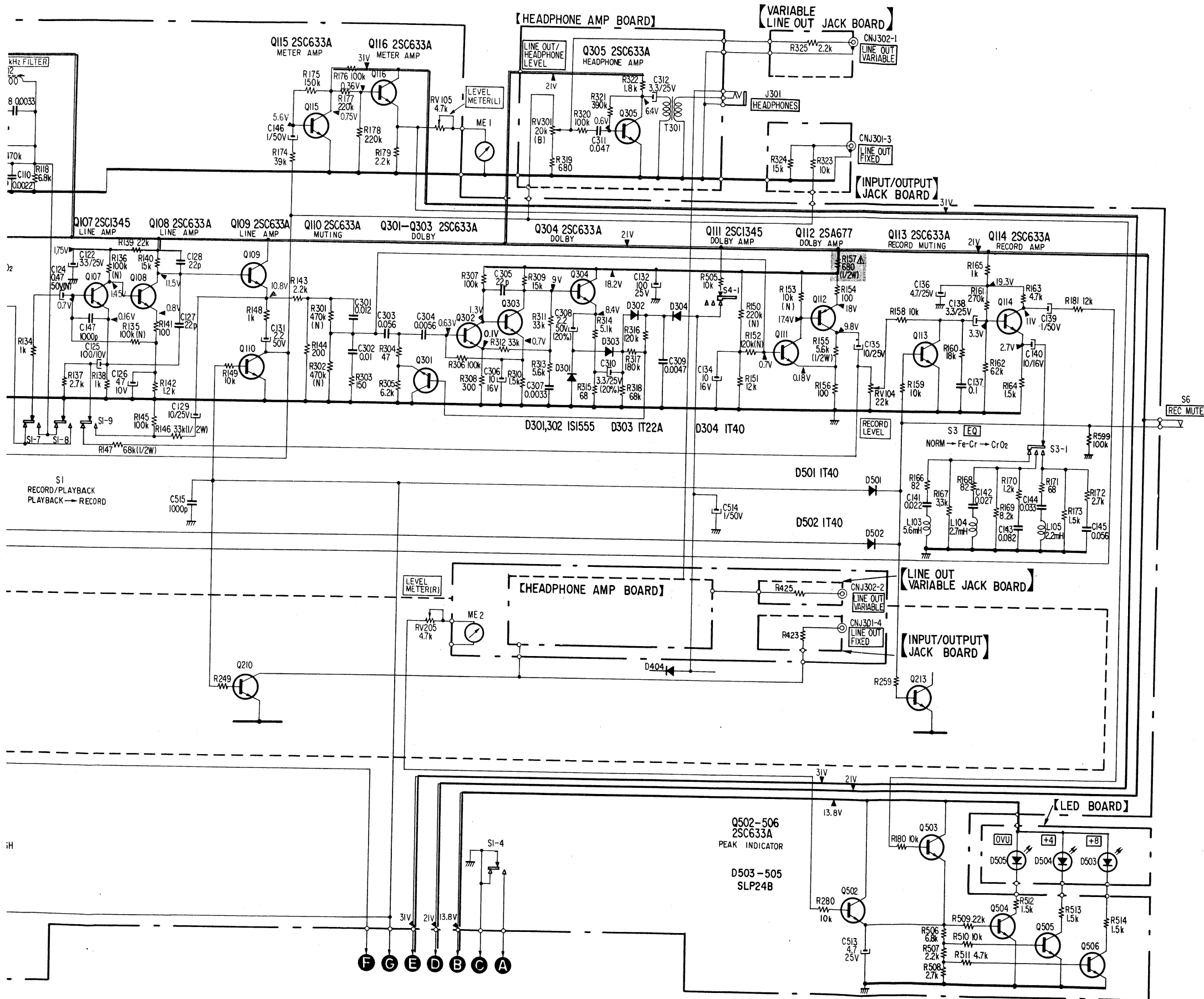


- Note:**
- : B+ pattern
 - : Signal Path
 - : L-CH
 - : R-CH
 - () REC
 - Color code of sleeving over the end of the jacket.



503	502	505	504	114	106	206	113	210	209	107	110	301	401	111	304	212	203	216
	506	501	508	507	105	205	213	210	208	108	110	102	402	112	303	211	202	215
					104	214	204		207	109		103	403	302	404		101	116
505	504		506	502	501				401	403		301	404	402	302	304		
503									301									





Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\mu\text{F}$. 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$.
- $\text{---}\text{---}\text{---}$: fusible resistor.
- (N): low-noise resistor and capacitor.
- 0% indicates component tolerance.
- $\text{---}\text{---}\text{---}$: B+ bus.
- $\text{---}\text{---}\text{---}$: panel designation.
- $\text{---}\text{---}\text{---}$: adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions with a VOM (20 $\text{k}\Omega/\text{V}$). (): RECORD
- AC voltage readings indicated by * in the bias oscillator circuit are taken with a VTVM.
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S1-1 to S1-12	RECORD/PLAYBACK	PLAYBACK
S2	BIAS	LOW
S3-1, S3-2, S3-4	EQ	NORM
S4-1, S4-2, S4-4	DOLBY NR	OFF
S5-1 to S5-4	TIMING	STOP
S6	REC MUTE	OFF

Note: The components identified by shading and Δ mark are critical for safety. Replace only with part number specified.

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (**A**) to (**Z**) are applicable to European models only.



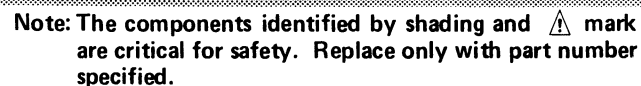
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (A) to (Z) are applicable to European models only.




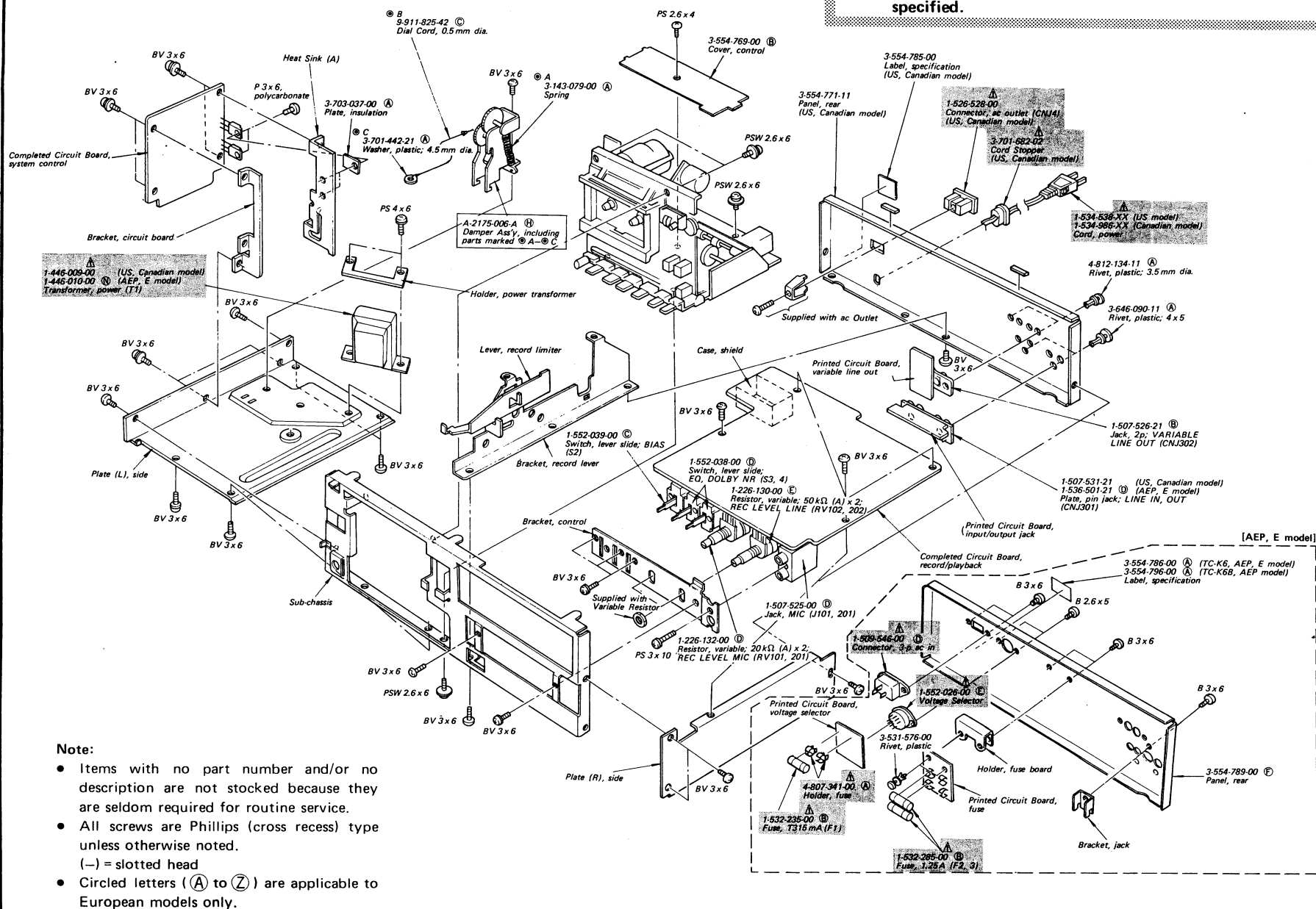
3

(3)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (**A**) to (**Z**) are applicable to European models only.



Note: The components identified by shading and  mark are critical for safety. Replace only with part number specified.



- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (**A**) to (**Z**) are applicable to European models only.

A

B

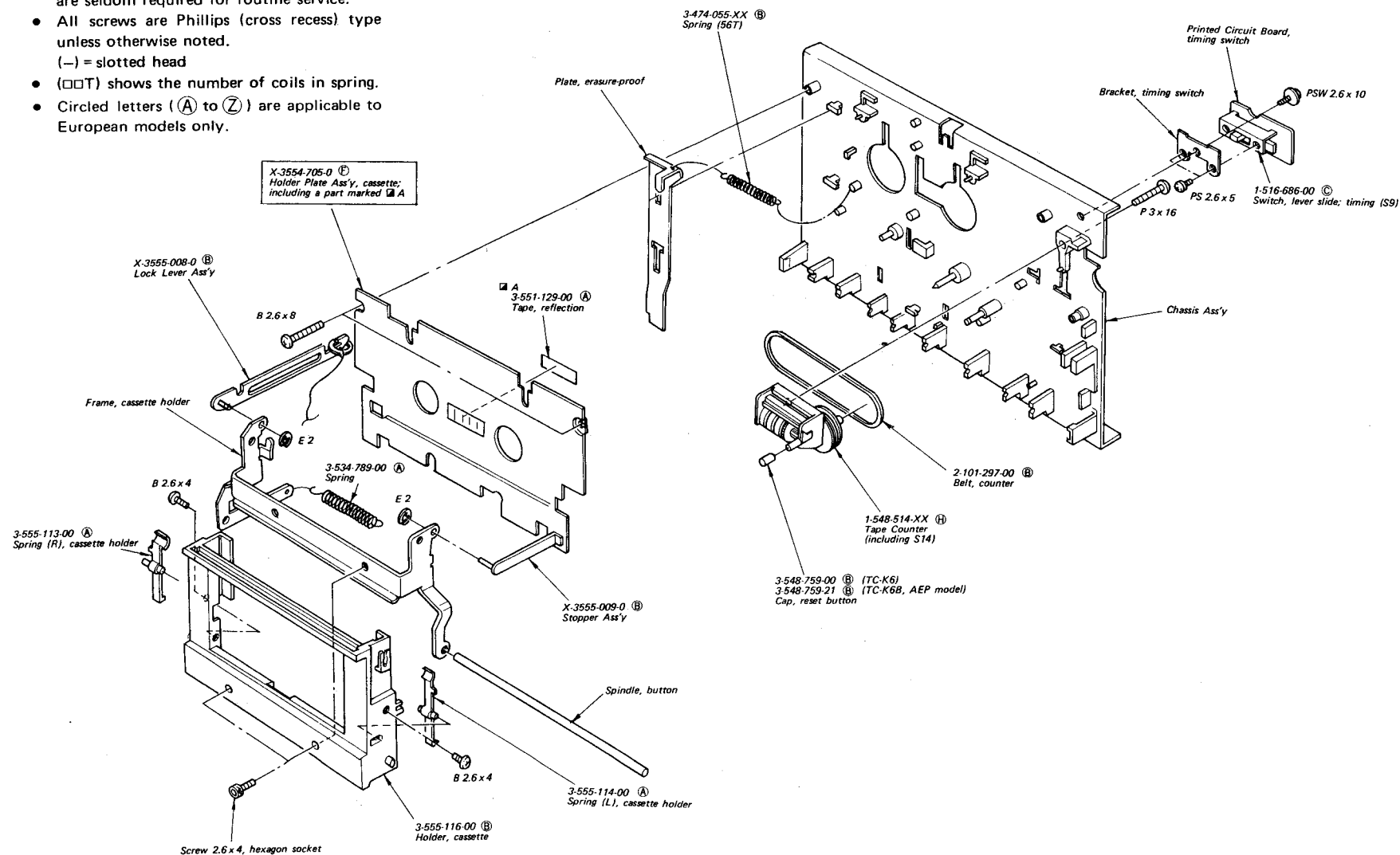
C

D

E

(4) Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (A to Z) are applicable to European models only.



TC-K6/K6B

A

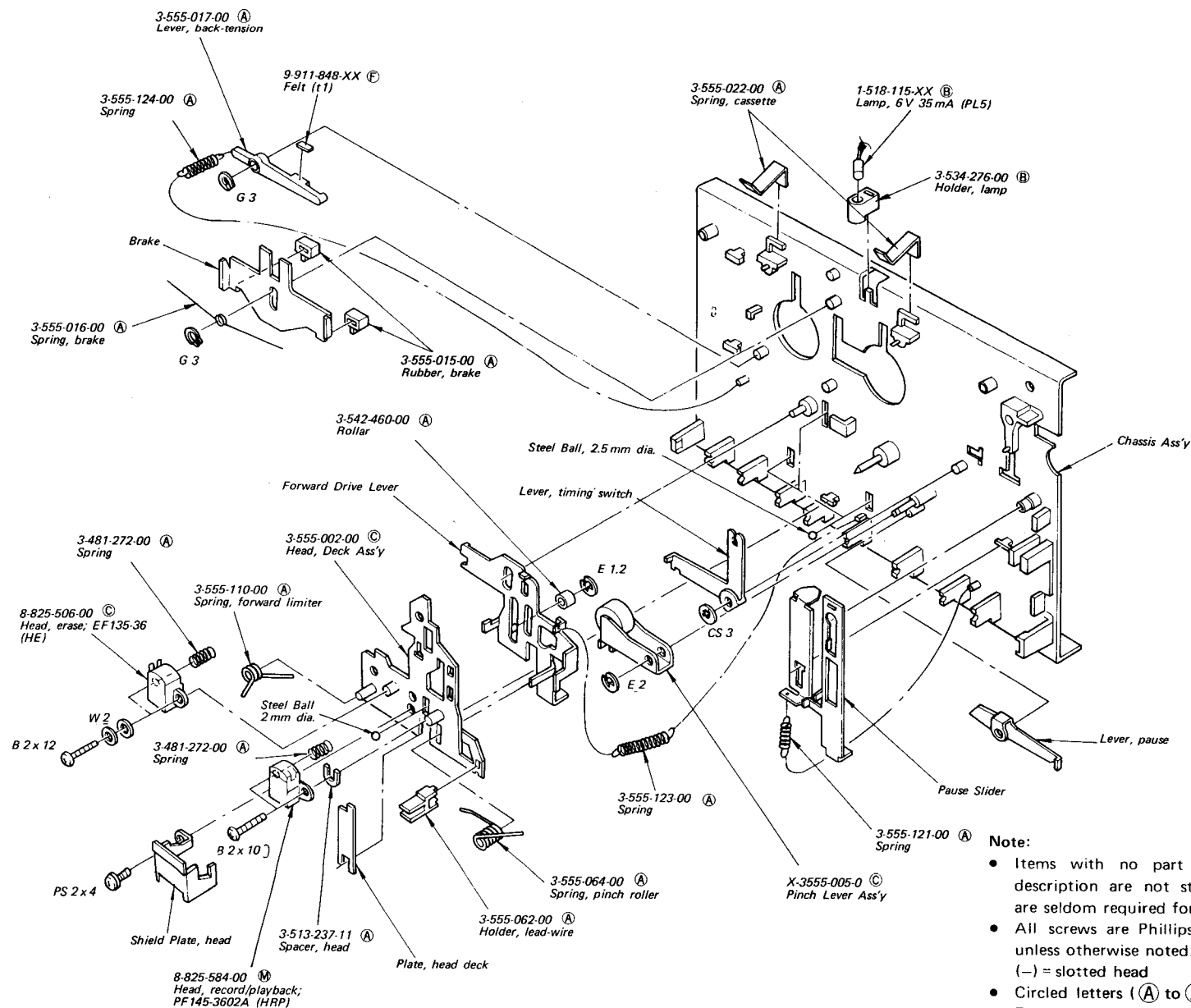
B

C

D

E

(5)

**Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (A to Z) are applicable to European models only.

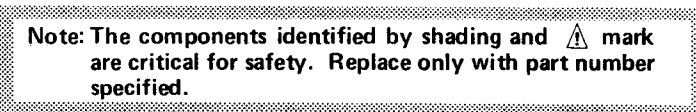
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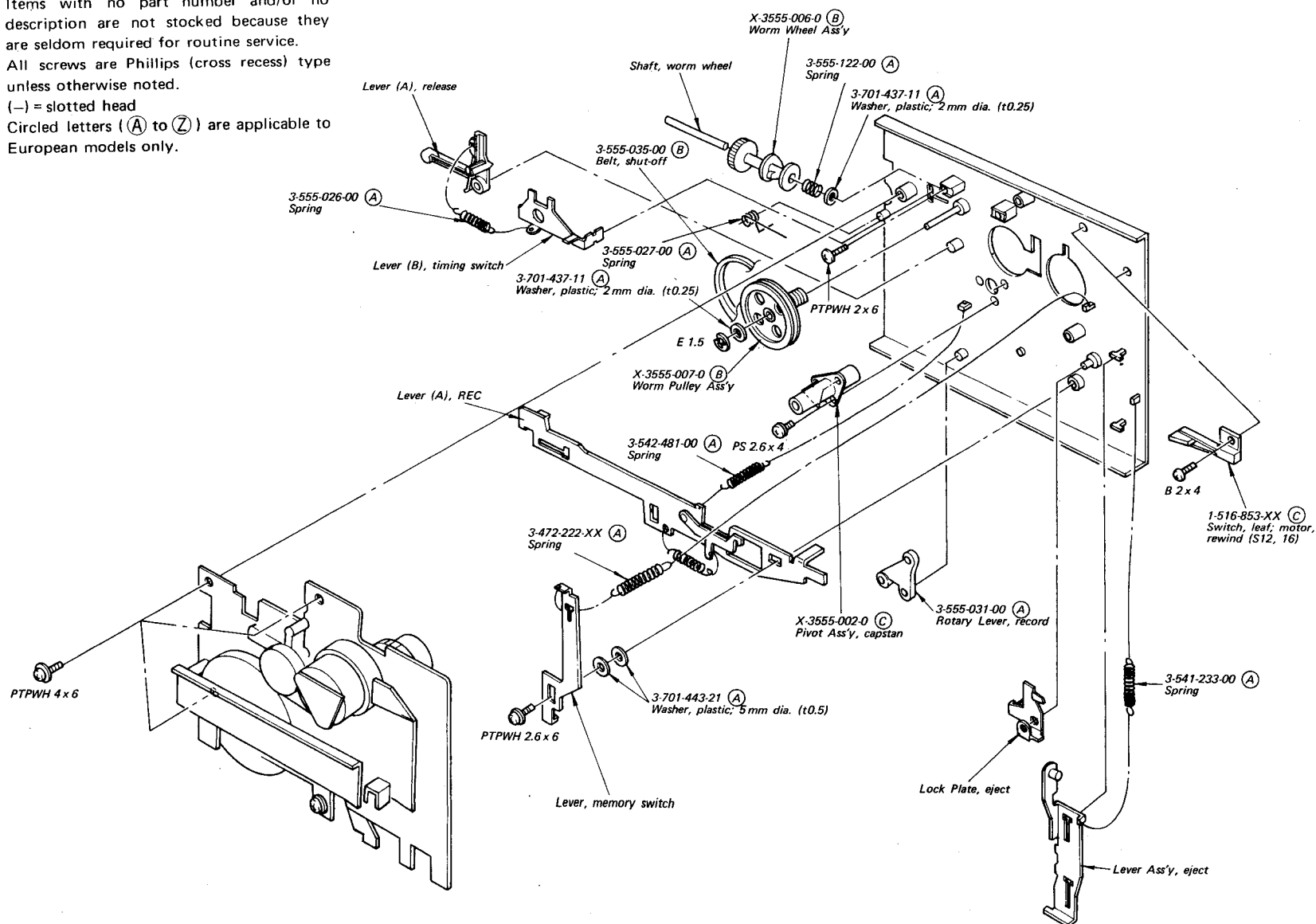
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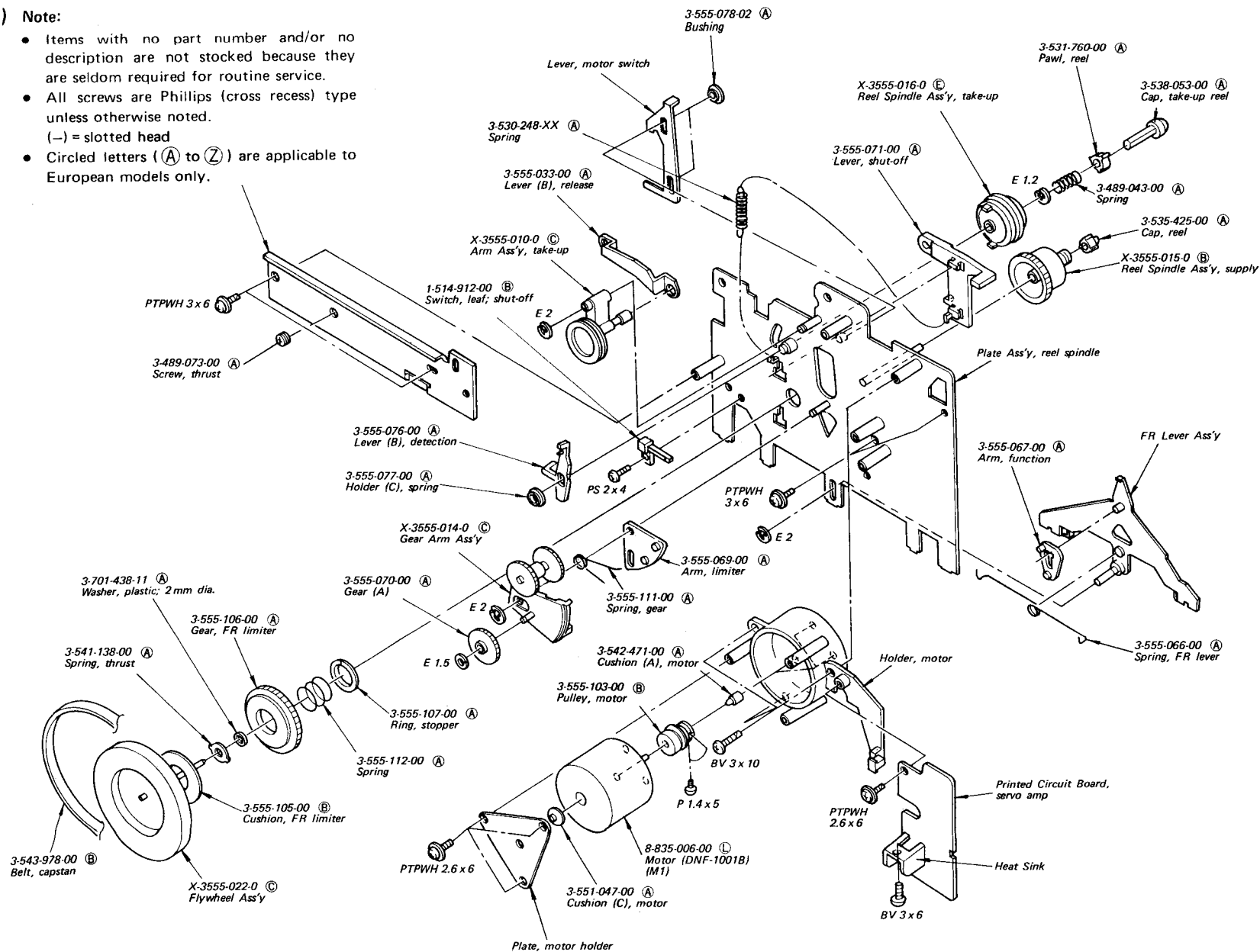
E

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (—) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



(9) Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (A) to (Z) are applicable to European models only.



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- 4.2 -

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4

SECTION 6 ELECTRICAL PARTS LIST

• Circled letters (A to Z) are applicable to European models only.



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
SEMICONDUCTORS					
Transistors					
Q101-105	(B) 2SC1345		Q621	(B) 2SC634A	
⇒ Q106	(B) 2SC634A		⇒ Q1001	(D) 2SC1061	
Q107	(B) 2SC1345		IC		
⇒ Q108-110	(B) 2SC634A		⇒ IC1001	(F) CX065A	
Q111	(B) 2SC1345		Diodes		
⇒ Q112	(C) 2SA678		D301,302	(B) 1S1555	
⇒ Q113-116	(B) 2SC634A		D303	(B) 1T22AM	
Q201-205	(B) 2SC1345		⇒ D304	(B) 1S1555	
⇒ Q206	(B) 2SC634A		D401,402	(B) 1S1555	
Q207	(B) 2SC1345		D403	(B) 1T22AM	
⇒ Q208-210	(B) 2SC634A		⇒ D404	(B) 1S1555	
Q211	(B) 2SC1345		⇒ D501,502	(B) 1S1555	
⇒ Q212	(C) 2SA678		D503-505	(C) SLP24B	
⇒ Q213	(B) 2SC634A		⇒ D506	(B) 1S1555	
⇒ Q224-226	(B) 2SC634A		⇒ D601-616	(B) 1S1555	
⇒ Q301-305	(B) 2SC634A		⇒ D617	(B) EQB01-12Z	
⇒ Q401-405	(B) 2SC634A		⇒ D618,619	(A) (B) 10E2	
⇒ Q501	(C) 2SC1475		⇒ D620,621	(B) 1S1555	
⇒ Q502-508	(B) 2SC634A		⇒ D622	(B) EQB01-08	
Q601,602	(B) 2SC634A		⇒ D623	(B) 10E2	
Q603	(C) 2SC1475		⇒ D624,626	(A) 10E2 (US, Canadian model)	
Q604-606	(B) 2SC634A		⇒ D625,627	(A) (B) 10E2	
Q607	(C) 2SC1475		⇒ D628,629	(B) 10E2	
Q608,609	(B) 2SC634A		⇒ D630,631	(B) 1S1555	
Q610	(C) 2SA678		COILS		
Q611-616	(B) 2SC634A		All coils are microinductors unless otherwise noted.		
Q617	(C) 2SC1475		L101,201	1-407-212-XX (B) 33μH	
Q618	(B) 2SC634A		L102,202	1-407-240-00 (B) Inductor, variable; 19 kHz FILTER	
Q619,620	(C) 2SC1173		L103,203	1-407-203-XX (B) 5.6 mH	
			L104,204	1-407-199-XX (B) 2.7 mH	
			L105,205	1-407-198-XX (B) 2.2 mH	
			L501,502	1-407-211-XX (B) 27μH	

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and A mark are critical for safety. Replace only with part number specified.

TC-K6/K6B

- Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description
TRANSFORMERS		
T1	 1-446-009-00	Power (US, Canadian model)
T1	 1-446-010-00 (N)	Power (AEP, E model)
T301,401	1-427-424-00 (C)	Output
T501	1-433-132-00 (C)	OSC


CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.

50WV or less are not indicated except for electrolytics. pF = μF , elect = electrolytic

C101,201	1-121-916-11 (B)	10	16V	elect
C102,202	1-102-074-11 (A)	0.001		
C103,203, C104,204	1-121-915-11 (A)	4.7	25V	elect
C105,205	1-121-416-11 (B)	100	25V	elect
C106,206	1-121-409-11 (A)	47	16V	elect
C107,207	1-101-888-11 (A)	68p		
C108,208	1-108-567-12 (A)	0.0033		mylar
C109,209	1-108-569-12 (B)	0.0039		mylar
C110,210	1-108-563-11 (B)	0.0022		mylar
C111,211	1-121-410-11 (B)	47	25V	elect
C112,212	1-102-820-11 (A)	330p		
C113,213	1-102-108-11 (A)	150p		
C114,214	1-121-915-11 (A)	4.7	25V	elect
C115,215	1-102-820-11 (A)	330p		
C116,216	1-101-888-11 (A)	68p		
C117,217	1-121-651-11 (A)	10	16V	elect
C118,218	1-102-106-11 (A)	100p		
C119,219	1-108-593-12 (B)	0.039		mylar
C120,220	1-123-050-11 (B)	2.2	50V	elect
C121,221	1-108-571-12 (A)	0.0047		mylar
C122,222	1-121-404-11 (A)	33	25V	elect
C123,223	1-102-114-11 (A)	470p		
C124,224	1-121-911-11 (B)	0.47	50V	elect
C125,225	1-121-414-11 (A)	100	10V	elect
C126,226	1-121-352-11 (A)	47	10V	elect

C127,227	1-102-959-11 (A)	22p		
C128,228	1-102-959-11 (A)	22p		
C129,229	1-121-398-11 (A)	10	25V	elect
C131,231	1-121-450-11 (A)	2.2	50V	elect
C132, 232	1-121-416-11 (B)	100	25V	elect
C134,234	1-121-651-11 (A)	10	16V	elect
C135,235	1-121-398-11 (A)	10	25V	elect
C136,236	1-121-395-11 (A)	4.7	25V	elect
C137,237	1-108-251-12 (B)	0.1		mylar
C138,238	1-121-392-11 (A)	3.3	25V	elect
C139,239	1-121-391-11 (A)	1	50V	elect
C140,240	1-121-651-11 (A)	10	16V	elect
C141,241	1-108-587-12 (A)	0.022		mylar
C142,242	1-108-589-12 (B)	0.027		mylar
C143,243	1-108-362-12 (B)	0.082		mylar
C144,244	1-108-591-12 (B)	0.033		mylar
C145,245	1-108-361-12 (A)	0.056		mylar
C146,246	1-121-391-11 (A)	1	50V	elect
C147,247	1-102-074-11 (A)	0.001		
C301,401	1-108-581-12 (B)	0.012		mylar
C302,402	1-108-579-12 (A)	0.01		mylar
C303,403	1-108-597-12 (B)	0.0056		mylar
C304,404	1-108-573-12 (A)	0.0056		mylar
C305,405	1-102-959-11 (A)	22p		
C306,406	1-121-651-11 (A)	10	16V	elect
C307,407	1-108-567-12 (A)	0.0033		mylar
C308,408	1-121-986-11 (A)	2.2	50V	elect
C309,409	1-108-234-12 (A)	0.0047		mylar
C310,410	1-121-960-11 (A)	3.3	25V	elect
C311,411	1-108-246-12 (A)	0.047		mylar
C312,412	1-121-392-11 (A)	3.3	25V	elect
C501	1-108-579-12 (A)	0.01		mylar
C502	1-108-585-12 (B)	0.018		mylar
C503	1-131-218-11 (B)	3.3	35V	tantalum
C504,505	1-141-010-XX (B)	Trimmer		
C506	1-129-710-11 (A)	0.0047	630V	film
C507,508	1-107-206-11 (A)	15p	500V	silvered mica
C509,510	1-107-037-11 (A)	82p	500V	silvered mica
C511,512	1-107-091-11 (A)	180p		silvered mica

Note: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

- Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description
C513	1-121-395-11 (A) 4.7	25 V elect
C514	1-121-391-11 (A) 1	50 V elect
C515	1-102-074-11 (A) 0.001	
C516	1-121-450-11 (A) 2.2	50 V elect
C601	1-121-395-11 (A) 4.7	25 V elect
C602	1-121-391-11 (A) 1	50 V elect
C603	1-121-409-11 (A) 47	16 V elect
C604	1-121-450-11 (A) 2.2	50 V elect
C605	1-121-395-11 (A) 4.7	25 V elect
C606	1-121-662-11 (A) 22	35 V elect
C607,608	1-121-391-11 (A) 1	50 V elect
C609	1-121-392-11 (A) 3.3	25 V elect
C610	1-161-025-11 (B) 0.1	(boundary layer)
C611	1-161-019-11 (A) 0.033	(boundary layer)
C612,613	1-161-025-11 (B) 0.1	(boundary layer)
C614	1-161-019-11 (A) 0.033	(boundary layer)
C615	1-121-726-11 (A) 0.47	50 V elect
C616	1-121-398-11 (A) 10	25 V elect
C617	1-121-479-11 (A) 22	16 V elect
C618	1-121-416-11 (B) 100	25 V elect
C619	1-121-361-11 (B) 470	35 V elect
C620	1-121-361-11 (B) 470	35 V elect
C621	1-121-392-11 (A) 3.3	25 V elect
C622	1-121-660-11 (B) 2200	16 V elect
C623	1-121-479-11 (A) 22	16 V elect
C624	1-121-245-11 (B) 1000	16 V elect
C625	1-121-398-11 (A) 10	25 V elect
C626	1-121-245-11 (B) 1000	16 V elect
C627	1-121-392-11 (A) 3.3	25 V elect
C1003	1-130-134-11 (B) 0.08	100 V film

RESISTORS

All resistors are in ohms. Common 1/4W carbon resistors are omitted.
Refer to the list on page 21 for their part numbers.

R109,209	1-244-869-11 (A) 680	1/4W carbon
R157,257		

Ref. No.	Part No.	Description
R516	1-217-402-11 (B) 180	1/4W fusible
R649	1-244-873-11 (A) 1k	1/4W carbon
R650	1-246-413-11 (A) 3.3	1/4W carbon
R654	1-246-411-11 (A) 2.7	1/4W carbon
R655	1-206-481-11 (A) 56	2W metal oxide
R656	1-244-867-11 (A) 560	1/4W carbon
R657	1-217-418-11 (A) 0.47	1/4W fusible
RV101,201	1-226-132-00 (D) 20 k (A), variable; REC LEVEL MIC	
RV102,202	1-226-130-00 (E) 50 k (A), variable; REC LEVEL LINE	
RV103,203	1-224-645-XX (B) 10 k, adjustable; playback level	
RV104,204	1-224-646-XX (B) 22 k, adjustable; record level	
RV105,205	1-224-644-XX (B) 4.7, adjustable; level meter (L), (R)	
RV301	1-226-131-00 (D) 20 k, variable; LINE OUT/ HEADPHONE LEVEL	
RV1001	1-224-491-00 (B) 22 k, adjustable; tape speed	

SWITCHES

S1	1-516-263-00 (D) Slide, record/playback
S2	1-552-039-00 (C) Lever Slide, BIAS
S3,4	1-552-038-00 (D) Lever Slide (S3: EQ, S4: DOLBY NR)
S5	1-516-686-00 (C) Lever Slide, timing
S6	1-514-722-XX (C) Sub-miniature, REC MUTE
S7-10	1-552-272-00 (B) Miniature, >>>/<<<, >>, <<, >>>, <<<
S11	1-514-912-00 (B) Leaf, shut-off
S12	1-516-853-XX (C) Leaf, rewind
S13	1-552-271-00 (C) Slide, MEMORY
S15	1-516-693-00 Push, POWER (US, Canadian model)
S15	1-516-855-00 (E) Push, POWER (AEP, E model)
S16	1-516-853-XX (C) Leaf, motor
S17	1-552-273-00 (B) Miniature, eject

Note: The components identified by shading and Δ mark are critical for safety. Replace only with part number specified.

TC-K6/K6B

- Circled letters (A) to (Z) are applicable to European models only.

Ref. No. Part No. Description

JACKS AND CONNECTORS

J101,201	1-507-525-00	(D) Jack, MIC
J301	1-507-553-00	(C) Jack, HEADPHONES
CNJ4	△ 1-526-528-00	Socket, ac outlet (US, Canadian model)
CNJ301	1-507-531-21	Plate, pin jack; LINE IN, OUT (US, Canadian model)
CNJ301	1-536-501-21	(D) Plate, pin jack; LINE IN, OUT, REC/PB (AEP, E model)
CNJ302	1-507-526-21	(B) Jack, 2p; VARIABLE LINE OUT

MISCELLANEOUS

CP1	△ 1-231-057-31	(B) CR Encapsulated Component (AEP, E model)
CP1	△ 1-231-326-11	CR Encapsulated Component (US model)
CP1	△ 1-231-341-21	CR Encapsulated Component (Canadian model)
F1	△ 1-532-235-00	(B) Fuse, T315 mA (AEP, E model)
F2,3	△ 1-532-285-00	(B) Fuse, T1.25A (AEP, E model)
HE	8-825-506-00	(C) Head, erase EF135-36
HRP	8-825-584-00	(M) Head, record/playback; PF145-3602A
M1	8-835-006-00	(L) Motor, capstan; DNF-1001B
M2	1-541-129-00	(H) Motor, function
ME1,2	1-520-250-00	(K) Level Meter
PL1,2,5,6	1-518-115-XX	(B) Lamp, pilot 6V 35 mA
PM1	△ 1-454-096-00	(H) Solenoid, function
PM2	△ 1-454-176-21	(E) Solenoid, pause

△ 1-509-546-00	(D) Connector, 3-p ac in (AEP, E model)
△ 1-534-538-XX	Cord, power (US model)
△ 1-534-986-XX	Cord, power (Canadian model)
1-548-514-XX	(H) Tape Counter
△ 1-552-026-00	(E) Voltage Selector (AEP, E model)

ACCESSORIES & PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
X-3549-745-0	(C) Cushion Ass'y
X-3701-105-0	(A) Tips Ass'y, head cleaning
1-534-049-31	(F) Cord, connector; RK-74H
1-534-754-00	△ (E) Cord, power; parallel-blade plug (E model)
1-551-216-11	△ (H) Cord, power; euro-plug (E model)
3-429-126-00	(B) Bag, plastic
3-554-790-00	(F) Carton (TC-K6B, AEP model)
3-554-791-00	Carton (US, Canadian model)
3-554-792-00	(F) Carton (AEP, E model)
3-701-630-00	(A) Bag, plastic
3-770-365-11	(F) Manual, instruction (AEP, E model)
3-770-365-21	Manual, instruction (US model)
3-770-365-21	Manual, instruction (Canadian model)
3-794-172-31	Warranty Card (Canadian model)
3-793-956-31	Warranty Card (Canadian model)
3-794-060-11	(B) Leaflet (AEP, E model)
4-837-003-00	(C) Bag, plastic (TC-K6B, AEP model)

Note: The components identified by shading and △ mark are critical for safety. Replace only with part number specified.

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— 46 —

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